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WASHINGTON, D.C. 20500

THE CHAIRMAN

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MEMORANDUM FOR THE PRESIDENT

FROM: **LAWRENCE SUMMERS**
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SUBJECT: **Targets and Timetables for Reducing Greenhouse Gas Emissions**

Executive Summary

This memo provides a preliminary evaluation of the likely economic consequences for the United States of a program to attain 1990 CO_2 emissions levels by 2010. It concludes that the attainment of such a goal would necessitate at least a doubling in energy prices and impose substantial economic costs. In contrast, a more gradual emissions reduction path that eliminates emissions growth by 2010-2020 and reduces emissions to 1990 levels thereafter captures nearly identical environmental benefits as the more aggressive approach while entailing costs between one tenth and one third as large.

If attained through domestic emissions reductions alone the "1990 by 2010" target requires a reduction in CO_2 emissions of roughly 30% relative to projected 2010 emissions assuming "business as usual". *The reduction in energy use needed to meet this goal would be comparable to that achieved during the decade of the OPEC price hikes, so that energy price increases of similar magnitude are likely.* Economic analysis and historical precedent suggest that energy price increases of this size would have stagflationary consequences. As in the decade of the oil shocks, both unemployment and inflation would undoubtedly rise, at least for a time.

An "idealized" system of international permit trading among Annex I countries could hypothetically halve the change in carbon emissions prices needed to attain a 1990 by 2010 goal. This would mean paying Russia and other Eastern European countries to reduce emissions in place of the United States. However, such an arrangement could prove infeasible for a number of reasons, including difficulties in establishing adequate enforcement and monitoring mechanisms in the near term. Joint implementation with non-Annex I countries is likely to marginally reduce the impact on energy prices in the United States.

The memo argues that a more gradual timetable for emissions reduction can deliver virtually identical environmental benefits at a fraction of the cost. The aggressive "1990 by 2010" path is extremely inefficient because it requires premature scrappage of capital and foregoes the considerable advantages of waiting for the development of carbon-lean technologies

before replacing existing plant and equipment. In contrast, a timetable that eliminates emissions growth in the second decade of the program (2010-2020) and reduces emissions to 1990 levels and below in subsequent decades is consistent with a long-term goal of stabilizing atmospheric CO_2 concentrations. *The total cost of this "back-loaded" approach is likely one third to one tenth that of the "front-loaded" 1990 by 2010 program.* Implementation of the gradual timetable requires an early, modest increase in the price of carbon emissions, along with a credible commitment to further emissions price increases over time.

In comparison with a more gradual emissions reduction timetable, the environmental benefits of an aggressive abatement target are minimal. For example, the expected difference in global average temperature in 2100 along a fast-takeoff abatement path that attains 1990 emissions by 2010 and a slow-takeoff abatement path that peaks in 2015 and attains 1990 emissions by 2040 is less than 0.05 degrees Celsius. Between now and 2100, global average temperature is expected to rise about 2½ degrees Celsius irrespective of the path chosen for Annex I stabilization, assuming developing countries continue with business as usual.

The body of this memorandum lays out the rationale for these conclusions.

I. Introduction

The Framework Convention on Climate Change signed at the 1992 earth summit in Rio de Janeiro called for carbon dioxide emissions in 2000 at 1990 levels. Most countries, including the United States, are unlikely to achieve these emissions reductions. But the Rio approach remains historically important, and most quantitative proposals that have been advanced in the run up to Kyoto can be understood as variants of the Rio target and timetable. In particular, a proposal to "stabilize CO_2 emissions at 1990 levels by 2010" (and variants thereof, including a more stringent proposal by several EU countries to stabilize at 10% below 1990 levels by 2010) has received considerable attention.

This memo assesses the consequences for the U.S. economy of a program to attain 1990 CO_2 emissions levels by 2010. It compares the costs and cost effectiveness of this baseline proposal with those of alternative targets and timetables that entail a less rapid initial reduction in CO_2 emissions levels. The conclusions described here rely on the substantial body of economic analysis that has been conducted by researchers worldwide, including the Intergovernmental Panel on Climate Change (IPCC), and Administration economists.

II. 1990 by 2010: The Scope of the Task

To appreciate the ambitiousness of a program to curb U.S. emissions levels to 1990 by 2010 it is necessary to recognize that, by 2010, emissions are likely to exceed their 1990 levels by about 31 percent.[1] As of 1996, energy related carbon emissions were already 9 percent above 1990 levels. Growth in the economy through the end of the next decade would further raise energy use and carbon emissions. Even under an optimistic assumption concerning the pace of improvement of energy efficiency (0.9 percent per year), there would be further increases in carbon emissions of about 22 percent over current levels by 2010 if we continue with business as usual. A substantial increase in the price of carbon emissions will be needed to induce such a large emissions decline.

An increase in the price of carbon emissions--whether achieved through a system of tradeable emissions permits or a carbon tax--creates incentives to reduce emissions in two separate ways: by reducing overall energy use; and by inducing switches among fuels, away from high-carbon fuels like coal and toward low- and no-carbon fuels, such as natural gas and renewable energy. Reasonable estimates suggest that interfuel substitution in response to higher carbon emissions prices could accomplish between 25 and 45 percent of the overall task, with the remainder occurring through reduced energy use. The implication is that overall energy use must

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[1] This assumes a 2.4 percent annual GDP growth rate. Even with a more moderate assumption of 2.2 percent annual GDP growth, carbon emissions in 2010 would exceed their 1990 level by about 28 percent.

decline by about 15% to 18% relative to "business as usual" levels to attain the 1990 by 2010 emissions target. Energy use *does* respond to changes in the price of energy; but history suggests that the responsiveness is *low* over periods as short as a decade. In particular, the experience of the United States during the 1970s and 1980s suggests that energy prices would need to at least double--as they did during the OPEC oil shock period--to attain a 1990 by 2010 target.

Comparison with the Oil Shocks. Figure 1 shows aggregate energy use in the United States and the relative price of energy over the period 1960 to 1990. During the oil-shock period --1973 to 1984--energy use remained virtually constant in absolute terms while GDP grew about 2.5% per annum in real terms. The relative price of energy rose about 130 percent during these years. Again assuming a 0.9 percent pace of improvement in energy efficiency with constant energy prices, the 130 percent energy price hike served to reduce energy use about 16 percent relative to the "business as usual" baseline. *This experience suggests that an increase in relative energy prices roughly comparable to the 130% OPEC-induced rise will be needed to lower energy use by the 15 to 18 percent required to reach the 1990 by 2010 target. A 130% increase in energy prices translates into a carbon tax of roughly $170 per ton.*

Model results. Numerous economic/energy models have been used to estimate the impact of a 1990 by 2010 program on energy prices. These models arrive at the same conclusion as was generated above using no model whatsoever: a program to achieve 1990 emissions by 2010 would likely entail *at least* a doubling of energy prices. A broad range of models place the carbon permit price required to achieve 1990 emissions by 2010 in the range of $80 to $250 per ton. If fully passed through to energy prices, a permit price of $100 per ton, for example, entails a 76 percent increase in energy prices. The impact on the prices of different sources of energy are all large, but the effect on coal is particularly severe. The price of coal would more than triple, while the price of a barrel of petroleum would increase by about fifty percent. Gas at the pump would increase in price by about 26 cents. Relative to the BTU tax proposed by the Administration in 1993 a $100 implicit carbon tax is about 5 times as large. Thus, attaining a goal of 1990 by 2010 would have very large effects on our economy.

Evidence from International Comparisons. A final piece of evidence confirming the conclusion that a strong price signal over a long period of time is necessary to alter energy use comes from comparisons of energy usage between the United States and Europe. It should hardly be surprising that energy use per dollar of GDP is lower in Europe than the United States. Energy prices in Europe have long been substantially higher--roughly double U.S. energy prices. Moreover, major differences in living patterns between the United States and Europe result in higher European energy efficiency. In addition to the geographical "advantage", from an energy efficiency standpoint, of Europe's higher population density, resulting in lower transportation requirements, Europe has locked in place many long-run adaptations to high energy prices. Innovations in the design of housing and transportation systems and the configuration of residential areas have occurred in response to high energy prices. But in spite of its natural advantages and its long history of high energy prices, energy per dollar of GDP is only 44% lower in Europe than in the United States. This means that even if the United States were to

become Europe--energywise per dollar of GDP--its energy savings, even in the long run, would be no greater than 44 percent. This U.S.-Europe comparison supports the conclusions drawn from the natural experiment of the oil shock: namely, a return to 1990 emissions will not occur without very major price measures over a long period of time.

The Role of Technology and the Scope for "No Regrets" Policies. According to the preceding assessment, a large price inducement is necessary to meet a 1990 by 2010 target. Your economic advisers agree on this conclusion. However several of your advisers are more optimistic about the chances of achieving a 1990 by 2010 target. They emphasize the current availability of "no regrets" (cost-saving) technologies that promise substantial opportunities for abatement. A recent report by the Department of Energy research laboratories, for example, catalogues emissions-saving technologies that, by their calculations, are currently "cost effective." If put in place now, such practices could allegedly reduce emissions by between 30 to 50 percent of the amount needed to reach a 1990 by 2010 target. Even so, the report finds that "aggressive" and "invigorated" government policies--including potentially costly and intrusive regulations and standards--as well as a $50 carbon tax would be necessary to reach the 1990 by 2010 target.

Your economic advisers agree that there now exist unused technological opportunities for emissions reduction, but we question by what means, over what time frame, and at what expense government policies could change private behavior if such opportunities are currently underutilized. Engineering studies generally ignore the sometimes subtle disadvantages of available cost-saving technologies or overestimate their hypothetical returns. An example is illustrative: significant energy and cost savings could result if consumers replace incandescent bulbs with compact fluorescents. Over the long lifetime of such bulbs there would also be a substantial monetary gain. However, actual adoption of these light bulbs has been slow to date, possibly due to pure inertia, possibly because consumers dislike their color, or perhaps because they apply a high "discount rate" when valuing energy savings that accrue after the purchaser may have switched residence. Several recent studies have demonstrated that the actual returns to home improvement investments, such as attic insulation, often fall short of those predicted by engineering studies.

Regardless of the reasons, if consumers have not adopted "no regrets" measures at a faster rate, it is likely that additional incentives will be necessary for them to change their minds. Rather than stressing the mere availability of alternative technologies, your economic advisers insist on realistic estimates of likely rates of adoption and diffusion and they stress the need for economic incentives--in the form of a higher implicit price for carbon emissions--to induce the adoption of emissions-saving technology. They point out too that the baseline energy demand estimates used to predict the price increase needed to attain a 1990 by 2010 target already assume substantial ongoing improvements in energy efficiency due to the diffusion of existing technologies and the development of new ones. Significant adoption of such technologies is necessary merely to meet this assumed baseline. Finally, it is important to note that the DOE labs study includes as part of its policy package to reach 1990 emissions by 2010 extensive

regulations, including stringent CAFE and appliance standards and national building codes--command and control policies that your economic advisers would oppose--along with a $50 carbon tax.

To summarize, your economic advisers consider it unrealistic to predict a substantial increase in the pace of adoption of new emissions-saving technologies in the absence of a large increase in the price of carbon emissions--and hence of energy. Based in part on the evidence from the energy shocks of the 1970s, in part on international comparisons, and in part on model results, they are optimistic that such an increase in prices would bring forth a reduction in CO_2 emissions--with larger responses to a given price change likelier the longer the time period for response. The evidence is strong that a very large price increase will be necessary to attain emissions reductions of 20 to 30 percent over a period as short as a decade. *Moreover, other approaches that apparently do not involve large price increases (such as performance standards) will impose even higher costs on the American economy.*

III. Why are the costs of early emissions reductions so high?

The previous section argued that a "1990 by 2010" target would entail high carbon emissions prices and significant economic costs. This section shows that the 1990 by 2010 timepath for emissions reductions is so aggressive as to be inefficient--in the sense of raising substantially the total projected economic cost of reaching a given environmental goal. There are three major reasons why an aggressive takeoff in curtailing emissions raises overall costs: (1) it induces premature obsolescence of the capital stock because it does not allow adequate time for the capital stock to turn over naturally; (2) it provides insufficient lead time to develop and implement new technologies; (3) it causes a significant stagflationary short-term macroeconomic shock. Additionally, an aggressive timetable for emissions reductions does not allow time for the resolution of uncertainty and it does not take advantage of the time-value of money (resources not spent on emissions reductions early on can be invested at a positive return which could purchase more emissions reductions later).

The Role of Turnover of the Capital Stock. The most clear-cut and easily quantifiable reason for the high price tag associated with rapid emissions reductions relates to the need for premature replacement of plant and equipment in response to large increases in the price of carbon emissions. It is expensive enough to replace plants that are fully depreciated, but vastly more so if those plants are still in the prime of their productive lives. Within 20 to 40 years, much of our existing plant and equipment will be ready for replacement anyway; therefore building in greater carbon efficiency at that time will be relatively cheap. *It is important to emphasize that the case we are making here is not based on procrastinating for the sake of avoiding the problem; rather, it is based on simple principles of hard-headed business efficiency.*

The advantage of a more gradual emissions reduction timetable in avoiding the large

costs associated with premature obsolescence of the capital stock can be illustrated by considering electrical power generation. The case of electricity generation is important in its own right since this industry is responsible for 88% of coal use and more than one third of all carbon dioxide emissions in the United States. But the principle concerning the costs of premature replacement applies broadly because reduced greenhouse gas emissions may entail the accelerated retrofitting of housing and commercial structures, the premature scrappage of vehicles and appliances, and the premature replacement of plant and equipment in energy intensive industries.

Figure 2 illustrates the effect of an accelerated retirement schedule for today's U.S. electric power generation capacity installed during the last 40 years. Imagine, to take an extreme case, that a timetable is adopted that necessitates replacing all power plants with less-polluting technology within ten years. This would require retiring 630 out of 670 gigawatts of generating capacity before the end of its normal life span, or 94 percent of the total. If the timetable were extended so that all power plants instead had to be replaced within 20 years, the accelerated replacement of capacity would affect 450 gigawatts of capacity, or 67 percent of the total. Allowing this additional 10 years for turnover avoids the premature retirement of 27 percent of existing electric power plant capacity. With a 30 year horizon, complete turnover would mean accelerated retirement of only 21 percent of the total capacity and, with a 40 year timetable, there would be almost no additional costs due to premature obsolescence.[2, 3]

The Advantage of Waiting for Superior Technologies. The example of electric power generation also illustrates a second important reason why a gradual takeoff in curbing greenhouse gas emissions is ultimately less costly: new technologies take a long time to develop. Waiting until these new technologies are available before making expensive emissions-saving investments offers the potential of both lower economic costs and higher environmental payoffs. Under a tight target and timetable with its associated high carbon emissions price, electric utilities will be forced to replace existing capacity in the very near future and to rely on currently available lean-carbon technologies, likely gas-turbine plants. If some delay can be factored in, however, they will be able to install more effective and less costly alternative technologies. A rapid timetable forces long-term investments to be made before superior technologies have been

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[2]The distribution has been truncated at 40 years, the average lifespan of existing electric power plants. A few plants of yet older vintage are still in use.

[3]The same exercise can be performed for coal-fired power plants. These generators produce the most carbon per kilowatt hour of electricity and thus will have a high incidence of replacement even under a moderate abatement plan. If a complete change-over of coal plants were to be accomplished in 10 years, 96 percent of total capacity would be retired early. If retirement occurred over 20 years, only 64 percent would be retired early. Allowing an additional 10 years for turnover would avoid premature retirement of one-third of existing coal-fired plant capacity.

developed and refined.

Implication: The Need for a Credible, Long-Term Price Increase. The example of electricity generation illustrates two general principles. First, the responsiveness of both demand and supply are greater in the long run than in the short run. This means that, with a longer horizon, any given amount of abatement can be accomplished with a smaller increase in carbon emissions prices. Second, and perhaps even more important for policy, any credible emissions reduction strategy must include both a price increase at the outset and also a clear commitment to maintain and likely increase prices further over time. Without such a commitment, the changes in behavior required to meet even a long-run target of emissions reduction will likely not occur. Consider a utility that today is drawing up its plans for a new power plant. That utility will choose among today's technologies, which vary in their costs and CO_2 emissions. In order to induce the utility to choose a more costly, lean-emissions technology today, it must be clear that CO_2 emissions will be costly enough over the 40 years or more lifetime of the plant to justify a more expensive investment option today. A large cumulative reduction in emissions can be achieved over the long term with only a modest carbon emissions price increase now, but only if the commitment to still higher prices in the future is credible and clear.

Stagflationary Macroeconomic Impact. From a macroeconomic perspective, increases in energy prices constitute an adverse "supply shock." Such developments are stagflationary--even if anticipated--because they raise both inflation and unemployment simultaneously, creating a painful macroeconomic dilemma. As noted above, a plan to attain 1990 emissions levels by 2010 would require a change in energy prices over the first decade of the 21st century at least comparable in magnitude to the two oil shocks of the 1970s. Those shocks are widely acknowledged to have raised both unemployment and inflation. Similarly, the energy price increases required by a 1990 by 2010 program would raise inflation, lower real wages, and raise unemployment. Unemployment in the four years after the first oil shock averaged 7.2 percent in comparison to 5.0 percent in the four years prior; and unemployment rose further, to an average of 8.6 percent, in the four-year aftermath of the second oil shock.[4] Although the increases in energy prices associated with a treaty to reduce greenhouse gases would be anticipated, rather than a surprise, we should nevertheless expect that the efforts of the Federal Reserve to contain inflation, coupled with likely efforts on the part of workers to recoup real wage losses will lead to a period of higher unemployment.

Furthermore, it is important to note that most model-based estimates of the costs of a program to attain 1990 emissions levels by 2010 assume that resources are fully employed, thereby ignoring these potential short-term effects. Such models therefore provide no assessment of the consequent increases in unemployment.

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[4] There is debate about how much of this was due directly to the oil shocks, because there was a simultaneous decline in productivity growth and transfers of real income to OPEC producers.

IV. Quantifying the Economic Costs of Gradual versus Fast Take-off

The relative costs of gradual versus fast takeoff timetables in curbing CO_2 emissions has recently been analyzed by the Stanford Energy Modeling Forum (EMF-14).[5] The Stanford group used six large-scale economic/energy models to compare the total projected cost of two alternative emissions reduction time paths--one "frontloaded", the second more "backloaded". *Importantly, both paths were designed eventually to stabilize atmospheric concentrations of CO_2 at double the pre-industrial level--550 ppmv.*[6] Although a high degree of uncertainty is inherent in particular numerical estimates from individual models, the simulations nevertheless point to some robust qualitative conclusions. *The major conclusion to be drawn from this project is that an emissions reductions path characterized by an aggressive initial phase is substantially more costly--3 to 10 times more costly--than a path with a slower takeoff but larger eventual reductions.*

To enable a comparison of the costs of gradual and rapid takeoff strategies, the EMF investigators asked each of six modeling groups to simulate the economic impacts of two alternative strategies to attain stabilization of CO_2 concentrations at 550 ppmv. The first strategy (the WG-1 path) corresponds to an emissions pathway published in 1994 by Working Group 1 (WG-1) of the Intergovernmental Panel on Climate Change (IPCC). The working group computed a set of global CO_2 emissions pathways consistent with stabilization of concentrations at 550 ppmv and several alternative concentration levels. The WG-1 path entails an immediate departure from the baseline or "business as usual" emissions path. Subsequently, Wigley, Richels and Edmonds (WRE) published an alternative set of emissions profiles to achieve the same concentration targets. In contrast to the WG-1 paths, the WRE emissions path was constructed to follow the baseline or "business as usual" scenario in the early years with sharper reductions after this initial phase. Wigley, Richels and Edmonds hypothesized that their more gradual takeoff emissions pathways would yield identical environmental objectives with substantially lower economic costs, for the reasons discussed above. The EMF-14 exercise validates this hypothesis.

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[5] To enable meaningful comparisons of results across models, the EMF has coordinated a series of projects in which a number of large scale energy models are used to estimate the impact of given, specified emissions reduction scenarios under common standardized, benchmark assumptions concerning population and economic activity, discount rates, energy resource availability and prices and technology availability.

[6] All energy models make numerous simplifications and approximations in order to describe the energy sector globally and over the span of a century or more. In particular, all of the models assume full employment, thereby abstracting from the likely short-run macroeconomic costs of an emissions reduction program.

The EMF-14 comparison project assessed the total costs to the OECD, the EEFSU (Eastern Europe and the former Soviet Union) and the non-Annex I countries of the WG-1 and WRE pathways to stabilization of CO_2 concentrations at 550 ppmv. The appropriate economic measure of total cost is the present discounted value of losses in future consumption relative to a "business as usual" scenario. Estimates of regional costs depend on the extent of burden sharing--namely, the assumed "division of labor"--between Annex I and non-Annex I countries in controlling emissions as well as the extent of international emissions trading. Recall that, by the end of the next century--by 2100-- assuming "business as usual"--non-Annex I countries will have more than 90 percent of CO_2 emissions. Thus, developing country participation is absolutely essential to achieving stabilization of concentrations. Consistent with the Berlin Mandate, the simulations assumed that the burden of emissions reduction would fall on Annex I countries exclusively during the early decades; that by 2030, non-Annex I countries would begin to participate; and by 2050, a full transition to targets based on equal per capita emissions rights is assumed.

Figure 3 plots the OECD emissions paths in the WG-1 and WRE scenarios. Under the WG-1 scenario, OECD emissions begin to decline immediately and continue to decline for roughly four decades. For example, OECD emissions fall 10 percent below initial levels ten years after implementation. This corresponds roughly to the requirement of a "1990 by 2010" timetable--that emissions decline about 15 percent from their projected 2000 level during the decade between 2000 and 2010. In contrast, OECD emissions along the WRE path continue to rise for roughly two decades--corresponding closely to a plan calling for emissions to peak around 2020--return to 1990 levels around 2040 and decline substantially further in subsequent decades.

Table 1 illustrates a robust conclusion that emerges from this exercise: fast takeoff in emissions reductions greatly increases the costs. Table 1 shows the cost for both the aggressive (WG-1) and gradual (WRE) paths--both with and without idealized international trading of permits. In 10 out of 12 simulations--for six different models with and without permit trading--the costs on the gradual WRE path is less than a third of the cost on the corresponding fast take-off path. Taking account of the likely adverse short-run macroeconomic consequences of an aggressive path would further strengthen this conclusion.

Table 2 illustrates a second, robust conclusion from the EMF-14 exercise: a viable system of international permit trading would very much reduce OECD costs. With global permit trading, the sharp, early emissions reductions required of OECD countries under the aggressive (WG-1) approach would be avoided through the purchase of emissions permits from countries with lower abatement costs. The average reduction in cost is 56 percent.[7]

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[7] The computations in Table 2 verify that the gradual (WRE) path, which permits emissions to depart relatively little from business as usual for several decades, is a substantially less costly than the alternative WG-1 path with its sharper immediate reductions. Since both

Finally, it is important to note that in most of the EMF models, policy actions to raise carbon emissions prices must be taken at the inception of the gradual (WRE) program and a commitment to increasing emissions prices over time is required to achieve additional emissions reductions. Naturally, the required initial carbon emissions price is substantially lower, at the outset, under the gradual (WRE) than under the aggressive (WG-1) path. Thus, although the gradual emissions path initially approximates the business as usual baseline, credible incentives must be put into place immediately, and strengthened over time, to achieve the needed investments in carbon-efficient technologies.

V. The Environmental Consequences of Gradual versus Fast Takeoff.

While the excess cost of a fast, compared to a gradual emissions reduction path is large, the difference in projected global temperatures over the next century between the fast and the gradual paths is quite small, both in absolute amount and relative to temperature changes expected even if an aggressive policy path is adopted. Under "business as usual" assumptions, average global temperatures are expected to rise about 1 degree Celsius by 2050 and about 2½ degrees Celsius by 2100. An aggressive Annex I emissions reduction path that stabilizes emissions at 1990 levels by 2010 and maintains emissions at the 1990 level thereafter would mitigate this temperature increase by roughly 0.1 degrees by 2050 and 0.2 degrees by 2100.[8] In contrast, a more gradual Annex I emissions path that peaks around 2015, stabilizes emissions at 1990 levels by 2040, and holds emissions constant at 1990 levels thereafter yields virtually identical environmental benefits: the temperature difference between the aggressive and gradual paths diverges by no more than 0.05 degrees at any time over the next century. Similarly, the temperature differences along the aggressive WG-1 and less aggressive WRE paths--both designed ultimately to stabilize concentrations at 550 ppmv--differ by a maximum of 0.2 degrees over the next several centuries.[9]

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paths are arbitrarily chosen to conform with the 550 ppmv concentration target, a natural question concerns the characteristics of an optimal or least-cost path for achieving this concentration target. An important recent study by Alan Manne and Richard Richels uses their MERGE model (included in the EMF-14 project) to compute the least-cost path with 550 ppmv stabilization and international permit trading. The optimal path, while not identical to the WRE path, is similar in character. This least-cost path peaks approximately three decades after the initiation of the program and declines thereafter.

[8] Successful stabilization would require very large cuts from "business as usual" in China, India, and other non-Annex I countries.

[9] If a model assumes that sulfur dioxide emissions decline with the decline in carbon dioxide emissions under climate policy (as predicted, given the extent of sulfur emissions associated with fossil fuel combustion, and incorporated in the IPCC's IS92 emissions

The limited climatological impact of even an extremely aggressive emissions reduction program measured in terms of temperature impacts during the next century reflects the extremely long lags involved in the underlying physical processes and the dependence of temperature on the total stock of carbon dioxide in the atmosphere, rather than the flow of emissions at a given time. Emissions reductions do matter to temperature, but only over an extremely long horizon. The cumulative nature of the process suggests that there is little effect on global temperature from a gradual rather than from a fast abatement takeoff. The addition to the total stock of carbon from a gradual rather than a fast start to abatement adds relatively little to the total atmospheric stock of CO_2 between now and 2100 for four separate reasons: the difference in carbon emissions between a gradual and a fast start over the initial decades of abatement is only a small fraction of total emissions in that period; the stock of CO_2 in the atmosphere is itself the result of many decades of emissions; some of the CO_2 emissions of the early decades will have been re-absorbed; and the most serious build-up in CO_2 under business as usual occurs late in the next century, as a consequence of burgeoning emissions from non-Annex I countries.

Even the potential for a catastrophic environmental event, such as the melting of the West Antarctic ice sheet, a runaway greenhouse effect (e.g., from release of trapped methane with the melting of the permafrost), or a structural change in ocean currents such as the Gulf Stream, which the preceding abstracts from, does not fundamentally affect the basic trade-offs between the high costs of fast vs. gradual takeoff paths. These factors do, however, add--perhaps greatly--to the urgency of adopting moderate long-term greenhouse gas concentration targets and a program involving an immediate, albeit moderate, increase in the price of CO_2 emissions.

VI. International Trading of Permits

As has already been noted, an effective system of international carbon emissions permit trading among Annex I countries could substantially diminish the cost of a CO_2 abatement program. An Annex I trading system could, potentially, reduce the size of the carbon emissions price to attain a 1990 by 2010 goal by up to 50%. Moreover, joint implementation projects with non-Annex I countries could, hypothetically, reduce this figure by half again.

Although international trading and joint implementation--so-called "where flexibility"--has enormous advantages in theory, your economic advisers are concerned that substantial barriers would stand in the way of implementing any workable analogue of such an idealized system--at least in the near term. Consequently, they stress that Annex I international permit trading and joint implementation between the U.S. and non-Annex I countries realistically can

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projections), the more aggressive WG-1 path will be *warmer* than the WRE path between 2000 and 2040. This result reflects the negative impact of sulfate aerosols on the greenhouse effect. Early and substantial cuts in fossil fuel combustion, while decreasing the carbon emissions that warm the atmosphere, also decrease the sulfate aerosols that cool the atmosphere.

serve only a limited role in reducing the costs associated with meeting a "1990 by 2010" target.

A *hypothetical* example shows how an international trading system would work, and why it would reduce each participant country's abatement costs. Suppose, ideally, that every country adopts a domestic permit system to implement its Kyoto target. Absent international trading, the price of emissions permits would surely differ across countries, reflecting differing marginal costs of abatement internationally. With different permit prices in different national markets, profit-seeking traders would be motivated to buy permits in countries where they are cheap and resell them in countries where they are more expensive. Such arbitrage activities would create an international permit market, bringing permit prices into equality worldwide. This idealized system promotes global efficiency in achieving any worldwide abatement goal. Countries with permit prices below world levels have the incentive to reduce emissions more than they otherwise would in order to profit in the international permit market. Countries with high permit prices would have the incentive to purchase permits, thereby relaxing their Kyoto emissions constraints. The U.S. government could avoid any direct participation in such a system as long as it deems foreign-issued permits presented to the U.S. government by U.S. carbon-emitting entities as valid as those issued by the U.S. government itself.

The preceding description of how an international permit trading system would work provides an idealized picture of its possibilities. But the actual benefits of such a system are apt to fall short of this utopian portrayal in part because countries are not obliged to fulfill their Kyoto commitments via a domestic permit trading scheme; indeed, few Annex I countries have indicated an intention to do so. For example, consider a government that has decided to limit domestic emissions through regulatory controls. International permit sales that result in tighter domestic constraints could well be politically unpopular so that a government would hesitate before selling its emissions rights to the United States. Similarly, international permit sales by a country that is meeting its Kyoto obligations through domestic carbon or energy taxes would necessitate a hike in those taxes. In either case, international trading would involve government to government negotiations, and difficult political decisions. In contrast, in the idealized system, trades result from profit-oriented transactions among individuals, mediated through the market.

Monitoring and enforcement issues are also likely to be paramount in insuring the workability of international trading. If domestic enforcement is effective in all countries, so that, in the aggregate, consumers and firms in each country actually limit their emissions to the national permit levels, international permit sales by private agents in the country actually translate into lower domestic emissions. But consider the difficulties that can occur with imperfect enforcement. If the government of a country--country X--finds it difficult either to measure domestic emissions or to enforce the purchase of permits by domestic emitters, then reductions in X's emissions may be insufficient to reach the Kyoto target. Those firms or individuals in X that are lucky enough to have been assigned the rights to X's permits will be able to sell them, at a quick profit, on the international market. With imperfect enforcement, international sales, without corresponding domestic emissions reductions, could emanate from countries with the weakest systems of enforcement. To prevent such "paper trades", which profit

some participants and increase emissions, many countries, including the United States, will want controls to ensure the integrity of international permits. Buyers, too, will want clear concrete guarantees of the validity of permits so as to be sure they are not being passed counterfeit goods. These controls and guarantees will surely inhibit the efficiency of the market and render some--possibly much--of the estimated savings illusory. In fact, most of the benefits projected from the international sale of permits come from inducing emissions reductions from countries in Eastern Europe and the former Soviet Union--countries with particularly weak tax collection and enforcement mechanisms. Without these countries in the scheme the gains from international trading of permits will be very small.

Joint implementation with non-Annex I countries also has the potential to reduce the U.S. burden of attaining any given timetable. Under this type of approach, U.S. businesses could receive credit for the construction of nuclear, oil, or natural gas electricity generation plants in China if it were confidently expected that China would instead have constructed coal-fired plants with much higher CO_2 emissions. Certification of such credits might be overseen by an international agency to ensure that the projects were emissions-replacing. Such a project-by-project system is likely the most that is feasible in the absence of quantitative targets. Your economics advisers have concerns about even this level of endeavor due to the inherent difficulty in establishing that a particular set of projects has actually reduced a country's emissions, absent a reference path enabling a clear quantitative comparison. For example, the construction of a nuclear power plant in place of a coal-powered plant in China could indirectly raise CO_2 emissions elsewhere in the Chinese economy--partially offsetting the direct CO_2 reducing effect of the project--if the reduced demand for coal lowers its domestic price and encourages greater use elsewhere in the Chinese economy. A project-oriented approach to joint implementation will, in effect, constitute a limited form of international trading with high transaction costs. As a result, it will probably capture only a small fraction of the total benefits of full international trading. In contrast, model results concerning the benefits of joint implementation treat it as equivalent to idealized international trading.

VII. Recycling of Revenues

The ultimate economic cost of an emissions abatement program depends upon how the revenues realized from carbon taxes or auctioned permits are used. It has been estimated that the efficiency loss from collecting an extra dollar of tax revenue amounts to around 30 cents. If the revenues from a carbon tax or auctioned permits are used to reduce inefficient taxes inhibiting work or investment, the resulting gains would partially offset the micro-efficiency losses from energy curtailment. The simple lesson is that the costs of emissions abatement may be greatly reduced if the revenues from the taxes levied can be put to good use.

So far we have approached the recycling of revenues from the standpoint of microeconomic efficiency. There is also the potential for using the revenues to abate the macroeconomic consequences of the emissions program. The oil shocks are believed by many

economists to have resulted in increased unemployment because workers resisted the fall in real wages that was associated with the inflationary impact of higher energy prices. Increased wage demands added inflationary pressures to the economy that could only be suppressed by tighter monetary policy. Thus it might be argued that the effects of the real wage shock on inflation and unemployment could be diminished by lowering payroll or other worker taxes to offset the real wage losses from higher energy prices.

But England's experience points to the need for caution in assessing the potential for revenue recycling to allay the macroeconomic consequences of the rising energy costs. In 1979, immediately after her election, Margaret Thatcher increased the VAT tax and simultaneously decreased the income tax. These two policy changes had offsetting effects on real after tax incomes, and therefore might have been expected to have had no effect on wage bargaining. However, the increase in the VAT tax resulted in an immediately noticeable increase in the CPI. A wage-price spiral ensued as workers attempted to maintain their pre-tax real wages.

VIII. Policy Implications

The foregoing arguments point to the attractiveness, from both an economic and environmental standpoint, of a U.S. policy to raise the price of carbon emissions--either through a carbon tax or a system of auctioned permits--by a moderate amount--for example, between $5 and $15 per ton of carbon--in the near term, with further increases scheduled over the longer term. A realistic target and timetable corresponding to such a program would entail continued emissions growth in the first decade of the program, say 2000-2010; elimination of emissions growth in the second decade (2010-2020) and reductions in emissions thereafter. This program entails significant, early policy action and is consistent with a strong U.S. commitment to attaining the ultimate objective of the Framework Convention--namely to stabilize atmospheric concentrations of CO_2 and hence global temperatures.

Figure 1: Energy Prices and Changes in Energy Use

OPEC price hikes lowered energy use substantially

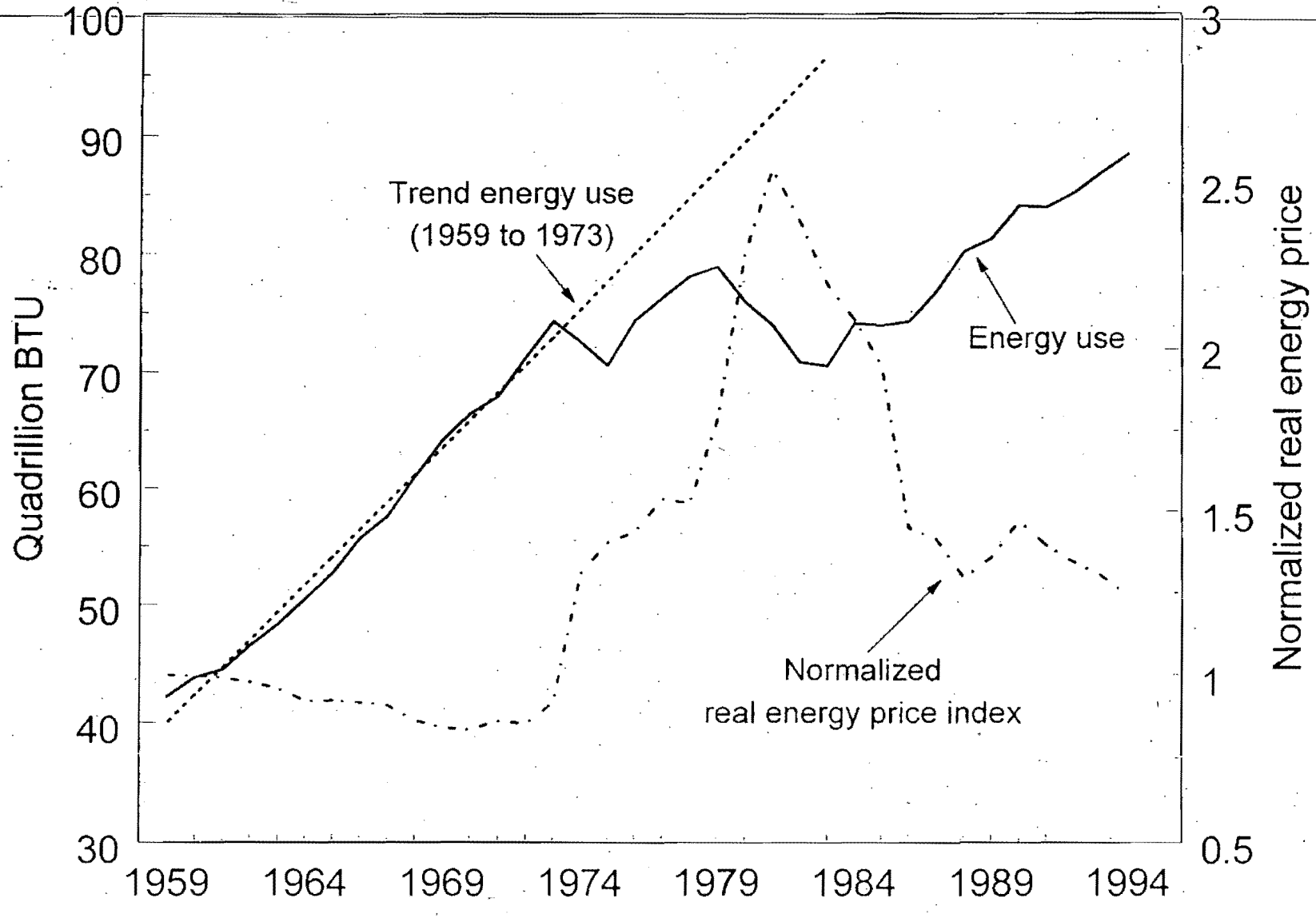
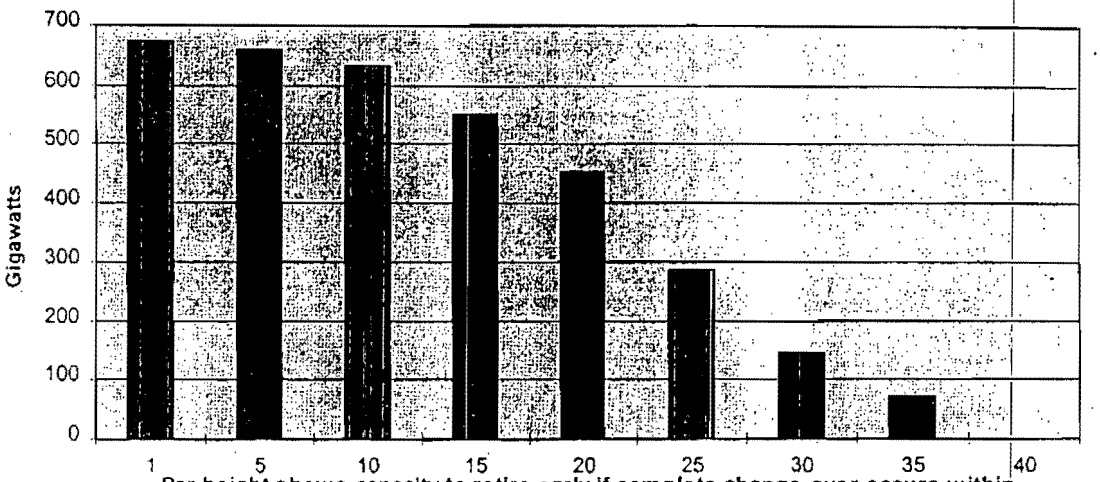
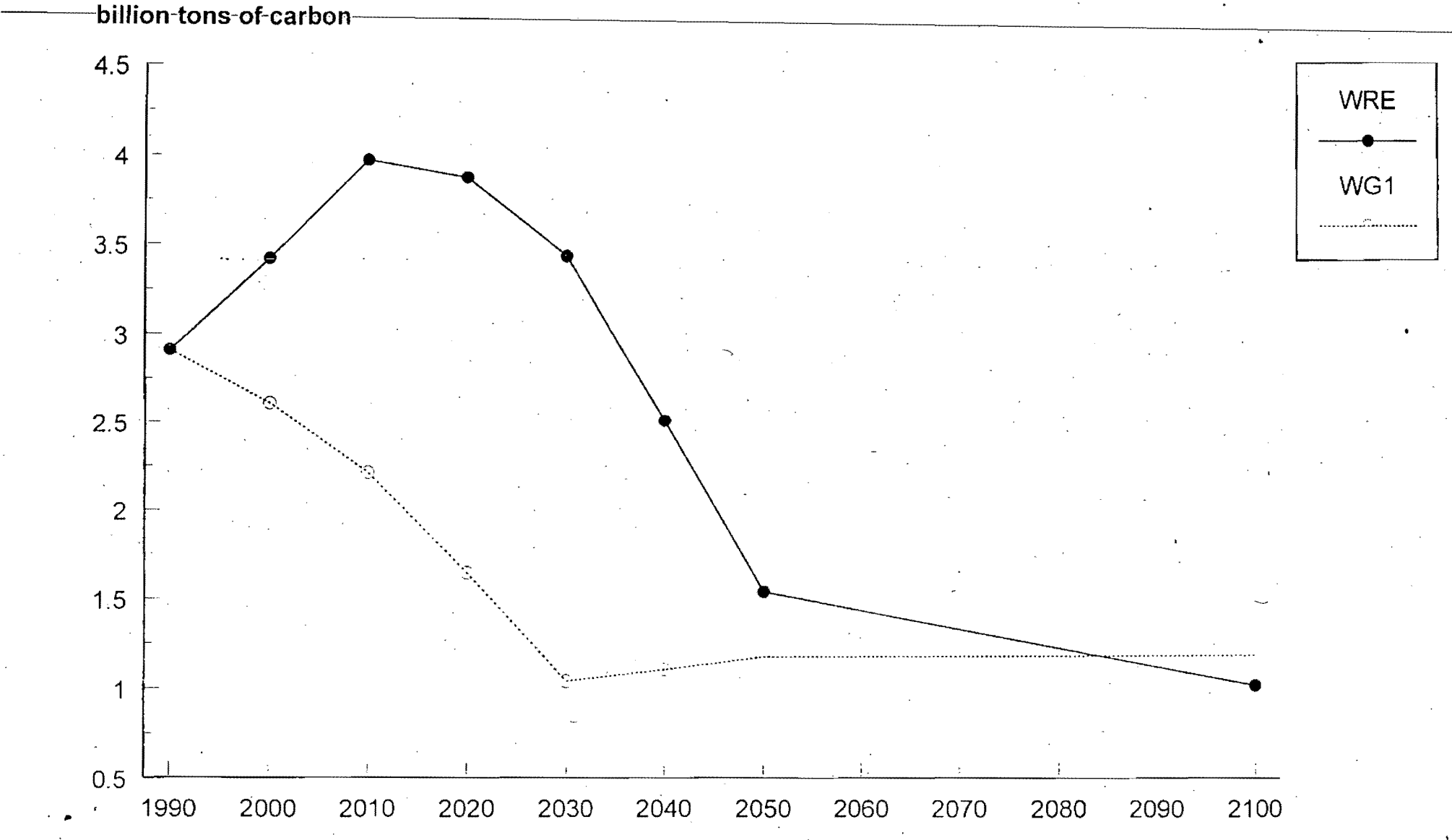


Figure 2: Accelerated Retirement of Electric Power Plant Capacity



Bar height shows capacity to retire early if complete change-over occurs within number of years indicated on the axis. Normal life span of a generator is 40 years.

Figure 3: WRE and WG-1 Emissions Pathways for OECD to Stabilize Concentrations at 550 ppmv



Source: Manne and Richels

Table 1

The Effects of Emissions Pathway on Consumption Losses by OECD Countries, No International Permit Trading (trillions of 1990 U.S. dollars)[a]

Model	WRE	WG1	WRE/WG1
CETA	1.83	5.94	0.31
CPBRIVM	0.64	3.25	0.20
FUND	9.82	11.71	0.84
MERGE	0.85	6.12	0.14
MiniCAM	1.58	6.51	0.24
SGM	1.84	6.17	0.30
		Average:	0.34

The Effects of Emissions Pathway on Consumption Losses by OECD Countries, International Permit Trading (trillions of 1990 U.S. dollars)[a]

Model	WRE	WG1	WRE/WG1
CETA	1.86	4.03	0.46
CPBRIVM	0.17	0.99	0.17
FUND	1.47	4.97	0.30
MERGE	0.60	3.24	0.19
MiniCAM	0.54	3.44	0.16
SGM	0.13	1.48	0.088
		Average:	0.23

[a] Losses measure the present discounted value of foregone consumption through 2100 in trillions of 1990 U.S. dollars.

Table 2

The Effects of International Permit Trading on Consumption Losses by OECD Countries, WRE Emissions Pathway to 550 ppmv Stabilization (trillions of 1990 U.S. dollars)[a]

Model	Trading	No Trading	Trading/No Trading
CETA	1.86	1.83	1.02
CPBRIVM	0.17	0.64	0.27
FUND	1.47	9.82	0.15
MERGE	0.60	0.85	0.71
MiniCAM	0.54	1.58	0.34
SGM	0.13	1.84	0.07
		Average:	0.43

The Effects of International Permit Trading on Consumption Losses by OECD Countries, WG1 Emissions Pathway to 550 ppmv Stabilization (trillions of 1990 U.S. dollars)[a]

Model	Trading	No Trading	Trading/No Trading
CETA	4.03	5.94	0.68
CPBRIVM	0.99	3.25	0.30
FUND	4.97	11.71	042
MERGE	3.24	6.12	0.53
MiniCAM	3.44	6.51	0.53
SGM	1.48	6.17	0.24
		Average:	0.45

[a] Losses measure the present discounted value of foregone consumption through 2100 in trillions of 1990 U.S. dollars.

TREASURY CLEARANCE SHEET

NO. _____

Date _____

MEMORANDUM FOR: ☒ SECRETARY ☐ DEPUTY SECRETARY ☐ EXECUTIVE SECRETARY

☐ ACTION ☐ BRIEFING ☐ INFORMATION ☐ LEGISLATION

☐ PRESS RELEASE ☐ PUBLICATION ☐ REGULATION ☐ SPEECH

☐ TESTIMONY ☐ OTHER _____

FROM: Secretary Rubin to President Clinton

THROUGH: _____

SUBJECT: _____

REVIEW OFFICES (Check when office clears)

☐ Under Secretary for Finance
- ☐ Domestic Finance
- ☐ Economic Policy
- ☐ Fiscal
  - ☐ FMS
  - ☐ Public Debt

☐ Under Secretary for International Affairs
- ☐ International Affairs

☐ Enforcement
- ☐ ATF
- ☐ Customs
- ☐ FLETC
- ☐ Secret Service

☒ General Counsel

☐ Inspector General
☐ IRS
☐ Legislative Affairs

☒ Management

☐ OCC

☐ Policy Management
- ☐ Scheduling

☐ Public Affairs/Liaison
☐ Tax Policy
☐ Treasurer
- ☐ E & P
- ☐ Mint
- ☐ Savings Bonds

☐ Other COS/ExecSec.

NAME (Please Type)	INITIAL	DATE	OFFICE	TEL. NO.
INITIATOR(S)				
Ben Jones	OK per NCC	10/3		
REVIEWERS				
Nancy Killefer	OK per NCC	10/3		
Ed Knight	EK/C	10/3		
Solomon / Froman				
Sandberg / Summers	OK per Ben Jones and NCC SS	10/3		

SPECIAL INSTRUCTIONS

Please return comments/clearance to Neal Cowtock by Noon on Friday 10/3

☐ Review Officer Date

☒ Executive Secretary Date

TD F 80-02.1 (04/89)

1997-SE-011049

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

October 15, 1997

MEMORANDUM TO: **DEPUTY SECRETARY SUMMERS**

FROM: **JONATHAN GRUBER** JG
Deputy Assistant Secretary (Economic Policy)

DAVID WILCOX DW

RE: **International Issues in Climate Change**

You had asked us two questions about international issues in climate change:

Is the projected 51% emissions growth in Japan plausible?

In fact, as you suspected. it is not. This projection was based on a 2.9% annual growth rate from 1990 to 2010. Using a much more reasonable 2.2% growth rate gives emissions growth for Japan of 34%, very close to the 32% growth that the U.S. sees at a 2.4% growth rate. The growth rates for the other countries in our 1990 to 2010 comparison seem reasonable. So, amending our earlier results, we find:

Country	Growth Rate Assumption	Emissions Growth, 1990-2010
U.S.	2.4%	32%
Japan	2.2%	34%
Western Europe	2%	19%
EE-FSU	0.3%	-12%
Non-US Annex 1		8%

Can International Trading and Safety Valves be Part of the Same Policy Package?

We attach a one page memo on this topic, per your request.

International Trading and *Safety Valves*: Some Difficult Issues

Two policy instruments currently being promoted as mechanisms for lowering the cost of emissions reductions in the United States are international trading of emissions permits, and a "safety valve" that would cap the price of permits in the U.S. (and possibly in other countries as well). The possible use of these mechanisms, particularly in conjunction, raises several difficult issues:

- First, other nations are very unlikely to allow the U.S. to have a safety valve unless they are allowed to have one too. If international trading is allowed, a lone country with safety-valve authorization might be able to raise an enormous amount of revenue by becoming the world's supplier of excess permits. Even if international trading is not allowed, other countries would strenuously object to our being allowed to "renege" on our international commitment.

- Second, if international trading and safety valves are both allowed, the country that insists on the lowest trigger point for its safety valve will effectively establish the world-wide limit on permit prices. Other countries will match the lowest trigger point to avoid being undersold in the market for permits. Thus, if we bless the concept of a safety valve, we may be allowing our environmental policy to become a hostage of other nations' actions.

- Third, any global emissions target will be violated whenever a safety valve is triggered. This would place the credibility of the international agreement in serious jeopardy.

- Fourth, some countries may *already* be taxing fossil fuels (gasoline in particular) sufficiently heavily to trigger a safety valve. As a rough rule of thumb, a permit price of $100 per ton translates into 26 cents per gallon of gasoline; in many countries, gasoline taxes are many times this level. This raises an important maintenance-of-effort problem: How do we insure that these countries *reduce* their emissions rather than increasing them?

- Fifth, setting the correct level of the trigger price will be very difficult, even leaving aside strategic considerations:

    - If the world-wide trigger price is set too low, international trading will be irrelevant; countries will issue excess permits at their common trigger price, and no trading will occur.

    - If the world-wide trigger price is set too high, the safety valve will be irrelevant, as no excess permits will ever be issued.

  In general, we can claim cost savings from a safety valve or international trading, but not both.

Taken together, these considerations suggest that aggressive claims of the potential cost reductions from implementation of both international trading and safety valves are probably overstated.

1997-SE-011151

TO: Larry Summers
FROM: Bob Boorstin
SUBJECT: Climate Change: Current Efforts in Developing Countries
DATE: October 15, 1997

This is in response to your request for information on what UN agencies and the MDB's are doing and current US activities in the developing world.

International Efforts

International efforts focus on the GEF which, as you know, provides grants and concessional funding to recipient countries for projects and programs that protect the global environment and promote sustainable economic growth. The GEF is striving for universal participation and currently 156 countries are participants.

The GEF was restructured and replenished with over US$ 2 billion in 1994, and covers the agreed incremental costs of activities that benefit the global environment in four focal areas: climate change; biological diversity; international waters; and stratospheric ozone, and makes funding available in a variety of ways. Activities concerning land degradation, primarily decertification and deforestation, as they relate to the four focal areas, are also eligible for funding. Both the Framework Convention on Climate Change and the Convention on Biological Diversity have designated the GEF as their funding mechanism on an interim basis.

GEF projects and programs are managed through three implementing agencies: the UN Development Programme (UNDP), the UN Environment Programme (UNEP) and the World Bank. The GEF, however, is functionally independent from the three implementing agencies, reports to and services the Council and Assembly of the GEF.

Countries may be eligible for GEF funds if they meet the following requirements: (1) if they are eligible for financial assistance through the financial mechanism of either the Climate Change Convention or the Convention on Biological Diversity; or (2) if they are eligible to borrow from the World Bank (IBRD and/or IDA) or receive technical assistance grants from UNDP through a Country Programme. Countries must be party to the Climate Change Convention or the Convention of Biological Diversity to receive funds. Projects must be initiated by the country, include the local communities, and, where appropriate, involve the NGOs.

Current GEF Projects:

Bhutan: Bhutan National Greenhouse Gas Project
Brazil: Biomass Power generation: Sugar Cane Bagasse and Trash
China: Efficient Industrial Boilers
China: Promoting Methane Recovery and Utilization from Mixed Municipal Refuse Renewable Energy and Energy Efficiency Fund
Hungary: Energy Efficiency Co-financing Fund (HEECF)
India: Solar Thermal Power
Jordan: Reduction of Methane Emissions and Utilization of Municipal Waste for Energy in Amman
Mexico: The ILUMEX Project

Papua New Guinea: Climate Change Assistance Project
Poland: Coal-to-Gas Conversion Project
Senegal: Sustainable and Participatory Energy Management
Sri Lanka: Energy Services Delivery (ESD)
Sri Lanka: Renewable Energy and Capacity Building

Domestic Efforts:

Both the US government and US based private, non-profit organizations are involved in efforts to reduce greenhouse gas emissions. As you know, the US Initiative on Joint Implementation (USIJI), announced in 1993 as part of the U.S. Climate Change Action Plan, is aimed at projects to reduce, avoid, or sequester greenhouse gas emissions. The International Utility Efficiency Partnerships (IUEP) initiative is a subdivision of USIJI and focuses specifically on power generation.

The government agencies involved include Commerce, Defense, Energy, State and Treasury, as well as EPA and USAID; most involve credit assistance or technical assistance programs. The private, non-profit groups include the usual suspects and the American Electric Power Systems.

The following is a list of current and proposed projects under USIJI:

First Round Projects — February 1995:
Belize: Rio Bravo Conservation and Forest Management
Costa Rica: Plantas Eolicas S.A. Wind Facility
Costa Rica: ECOLAND: Esquinas National Park
Costa Rica: Project CARFIX: Stabilize Existing and Expand Forest Cover
Czech Republic: Fuel Switching for District Heating System
Honduras: Enersol Rural Solar Electrification
Russia: RUSAFOR Saratov Afforestation Project

Second Round Projects — December 1995:
Costa Rica: Dona Julia Hydroelectric Project
Costa Rica: Aeroenergia Wind Facility
Costa Rica: Biodiversifix: Forest Restoration Project
Costa Rica: Klinki Forestry Project
Costa Rica: Tierras Morenas Windfarm Project
Honduras: Bio-Gen Biomass Power Generation Project
Nicaragua: El Hoyo-Monte Galan Geothermal Project
Russia: Rusagas Fugitive Gas Capture

Third Round Projects— December 1996:
Belize: The Bel/Maya Biomass Power Generation Project
Bolivia: The Noel Kempff M. Climate Action Project
Equador: Forest Conservation
Honduras: The Bio-Gen Biomass Power Generation Project Phase II
Indonesia: Carbon Sequestration Through Reduced Impact Logging
Mexico: Carbon Sequestration and Halophyte-based Industries
Mexico: Scolel Té--Sustainable Land Management and Carbon Sequestration
Panama: Reforestation Project
Russia: Reforestation Project
Russia: District Heating Improvements

Fourth Round Projects— July 1997:

Costa Rica: Consolidation of Biological Reserves Project

Projects in Development:

Armenia: Wood Energy Crops and Other Biomass to Electricity
Cameroon: Reforestation of the Mountains of the Northwest Province
Costa Rica: Rotational Biomass for Cement Manufacturing
Costa Rica: Colina Blanca International SA (Rainmaker Project/Forest preservation)
Costa Rica: Compania Nacional de Fuerza y Luz SA (Hydroelectric project)
Costa Rica: Monteverde Biological Corridor Carbon Sequestration (Forest management)
Ecuador: Forest Conservation
India: Bagasse-Fired Cogeneration
Mexico: Carbon Sequestration and Sustainable Forest Management (Multicomponent forestry)
Papau New Guinea: Lak Conservation Area Sustainable Forestry Project (Multicomponent forestry)
Philippines: Reforestation of the Mountains of Zambales
Russia: Reforestation
Russia: RUSAGAS-FGC, Fugitive Gas Capture (Fossil fuels/Natural gas project)

The following is a list of approved projects under JUEP:

Approved Projects:

Belize: The Bel/Maya Biomass Power Generation Project
Honduras: The Bio-Gen Biomass Power Generation Project Phase II
Honduras: The Bio-Gen Power Generation Project Phase I

NLC to LS (10/15)
NLC cc to MF (10/16) SS
10/15/97
Please Log IN

1997-SE-013737

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

December 19, 1997

ASSISTANT SECRETARY

MEMORANDUM FOR SECRETARY RUBIN

FROM: David Wilcox DW
Assistant Secretary (Economic Policy)

SUBJECT: Geoengineering solutions to climate change

This memorandum provides a brief description of geoengineering solutions to climate change. This subject was brought to your attention by James Tisch, president of Loews Corporation, in a recent letter.

Summary. Geoengineering is the deliberate altering of the atmosphere or oceans to produce some desired effect. Rather than trying to reduce greenhouse gas emissions, geoengineering focuses on interventions to mitigate or offset the higher concentrations of greenhouse gases expected in the future. An early attempt at geoengineering occurred between the 1940s and 1960s, when the US government tried to induce rainfall by cloud seeding. Now, as we search for solutions to climate change, geoengineering has made a comeback. In the face of the large uncertainties involved in the climate change debate, it makes sense to consider a portfolio of possible responses, including geoengineering

Background. One geoengineering approach would boost the capacity of the oceans to absorb carbon. The oceans drive the earth's carbon cycle, as they are the greatest sink for atmospheric carbon dioxide. Coastal oceans, especially in the tropics and mid-latitudes, are particularly important, as they contain high concentrations of plankton, minute plants and animals that process carbon dioxide and other gases (ocean water that looks brown or green contains a lot of plankton; ocean water that looks blue does not).

Polar oceans, and most oceans far from a seacoast, cannot support much plankton, and thus do not absorb much carbon. These waters contain the nitrates and phosphates necessary for plankton growth, but lack iron. The geoengineering solution would add tons of iron dust to the polar oceans, stimulating plankton growth to absorb carbon dioxide. Other options include painting roads and rooftops white to reflect more of the incoming sunlight, and sending into orbit thousands of reflective balloons to cut down the amount of sunlight reaching the atmosphere.

Many critics of geoengineering offer moral objections. To them, these plans smack of hubris. The originator of the iron-seeding proposal even boasted: "Give me a tanker full of iron, and I'll give you another ice age." But advocates point out that if we are to be prepared to respond to climate change, we will need a large R&D portfolio, including energy supply options, energy demand options, adaptation measures (e.g. sea walls), and geoengineering. Ice-core evidence now tells us that the earth's climate has sometimes oscillated wildly, with temperature swings of 10 or 20 degrees C in a few decades. Certainly, in an extreme case like this, we would want to have geoengineering options available.

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

December 8, 1997

Mr. James S. Tisch
President and Chief
Operating Officer
Loews Corporation
667 Madison Avenue
New York, NY 10021-8087

Dear Jimmy:

Thank you for your note, and for sending the article from Reason magazine on geoengineering solutions to climate change. I gather that Reason often offers a new take on an environmental or resource problem, and this article is a good example. As you know, Washington is now debating the role of technology in addressing climate change. Nearly all of the attention to date has focused on energy supply and energy demand -- either things that promise to deliver more work per unit of fuel (supply), or new ways to use less energy (demand). I have not personally followed the debate on the third approach, geoengineering, but I have asked someone to post me on this.

Sincerely,

Robert E. Rubin

Need brief explanation for Secy
by 12/19
4:00pm

997 FIL-011952 (COPY)

LOEWS CORPORATION
667 Madison Avenue, New York, N.Y. 10021-8087
Voice: (212) 521-2121 Fax: (212) 521-2919 E-mail: jtisch@loews.com

JAMES S. TISCH
President & Chief Operating Officer

November 3, 1997

Mr. Robert E. Rubin
Secretary of the Department of the Treasury
U.S. Treasury Department
1500 Pennsylvania Avenue, S.W.
Washington, D.C. 20220

Dear Bob:

It was good to see you on Saturday night. As promised, I am enclosing the article from Reason magazine which offers some no-pain solutions to the problem of global warming. I would be interested in your comments once you have had a chance to read the piece.

Sincerely,

JST:lkv
Enclosure

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C

73657
1997-SE-01365
EP

December 19, 1997

INFORMATION

ASSISTANT SECRETARY

MEMORANDUM FOR SECRETARY RUBIN

FROM: David Wilcox DW
Assistant Secretary (Economic Policy)

SUBJECT: Geoengineering solutions to climate change

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EXECUTIVE SECRETARIAT

Please file
Linda
Delivered
note to
EP 12/29
1360

The Secretary of the Treasury

December 24, 1997

NOTE TO DAVID WILCOX

FROM: Bob Rubin

Inconsistent luddites -- why is this no different than genetic improvement of plants in my view.

1998-SE-007356

ACTION

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

ASSISTANT SECRETARY

June 17, 1998

MEMORANDUM FOR DEPUTY SECRETARY SUMMERS

FROM: David Wilcox DW
Assistant Secretary (Economic Policy)

SUBJECT: Meeting of G-7 Working Group on Climate Change

A meeting of the G-7 Working Group on Climate is scheduled for July 17 in London. The purpose of the meeting is to emphasize the importance we attach to unfettered trading, and to begin to engage the economic agencies in other governments on a topic that until now has been dominated by the environmental agencies.

Melinda Kimble of the State Department has unilaterally declared that she would lead the delegation. Of all the issues related to climate change, this is the one where it makes the most sense to have economists in charge. I have spoken with David Sandalow, who is sympathetic to this point of view.

There are several options.

Option 1: You lead the delegation. This would send the biggest signal about the importance the US places on economic issues. One possibility is that you spend a couple of hours on this issue, and then spend the rest of the day on other issues while a technical working group continues on this topic. This would allow you to use the time to discuss other pressing issues.

Option 2: You send a letter to your counterparts, stating the importance you place on the economic issues on the climate change agenda, and urging them to send high level deputies. Jeff Frankel or I would lead the delegation.

Option 3: We work with OASIA to have climate change added to the agenda for the next meeting of G7 finance deputies.

Option 4: No change. State Department would lead the delegation.

Please let me know your preference, so that we may go ahead, if necessary, with an alternative proposal to the State Department.

NCC to LS (ACTION)

NCC cc to MF

6/17/98 SS NC/DI/PA/AK

Please Log IN

1998-SE-008030

Department
of the Treasury

Office of
Tax Policy

Date: July 7, 1998

To: Deputy Secretary Summers
Sheryl Sandberg

Attached is a copy of Karl Scholz's testimony on the climate change tax initiatives before the Senate Committee on Energy and Natural Resources.

Geraldine Gerardi
Director, Business Taxation Division
Office of Tax Analysis

Room 4217
Phone: 622-1782

For Release Upon Delivery
Expected at 9:30 a.m.
June 4, 1998

STATEMENT OF JOHN KARL SCHOLZ
DEPUTY ASSISTANT SECRETARY (TAX ANALYSIS)
DEPARTMENT OF THE TREASURY
BEFORE THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to discuss with you today the Administration's climate change tax incentives.

As you know, a few months ago, in the Administration's budget for FY 1999, the President presented to the Congress his plan to begin addressing climate change. That plan includes $3.6 billion of tax incentives that will encourage energy efficiency and renewable energy sources. The proposed tax incentives are part of a larger package of technology initiatives. In addition to the $3.6 billion of tax incentives, the Administration proposed $2.7 billion for R&D and deployment of energy efficiency, renewable energy, and carbon-reducing technologies. These provide a total of $6.3 billion in new funding and tax incentives over five years. We believe that these initiatives will stimulate the development and use of technologies that can help to improve energy efficiency and reduce greenhouse gas emissions.

My comments today will focus on an explanation of the Administration's proposed tax incentives.

DISCUSSION

Individuals and businesses underinvest in energy-saving technologies because the private returns from those investments are lower than the benefits to society. Private incentives may be too low because the market prices that serve as the signals that influence investment decisions do not take into account the benefits to society attributable to energy savings. Investments in energy-saving technologies can reduce dependence on oil imports and slow the buildup of greenhouse gases in the atmosphere. Tax incentives are an appropriate method for addressing the failure of market prices to achieve the desirable level of investment in energy-saving technologies because they can increase the private return from the investment by reducing its cost.

The proposed tax incentives are intended to reduce energy consumption and greenhouse gas emissions by encouraging the deployment of technologies that are highly energy efficient and that use renewable energy sources. Tax incentives can only be claimed for items that meet high standards for energy efficiency, use renewable energy sources, or reduce emissions of certain highly potent greenhouse gases. If the incentives are successful and are claimed by taxpayers, there will be energy savings and reductions in greenhouse gas emissions. If taxpayers do not take advantage of the incentives, however, there will be no revenue loss.

Specifically, we designed the incentives to take into account the following considerations:

(1) **Superior energy efficiency compared to conventional equipment**. The eligible items must meet high standards for energy efficiency or use renewable energy sources. This helps to ensure that scarce public resources are being used for the intended goal of reducing greenhouse gases.

(2) **High threshold for eligibility**. The eligible items must presently account for a small share of the market. This minimizes windfalls for purchases that would have been made anyway.

(3) **High up-front costs compared to conventional equipment**. The targeted technologies have significantly higher purchase prices than conventional equipment and, at current market prices, are not universally cost-effective. These high up-front costs are another reason not many would be purchased without the credit.

(4) **Commercially available**. The items must be commercially available or near commercialization. This ensures that the incentives encourage the deployment of new technologies that private markets have already developed.

(5) **Ease of administration**. The items must be able to be defined precisely enough so that the Internal Revenue Service can administer the incentives. This helps to ensure that incentives are claimed only for items for which they are intended.

We also targeted tax incentives to address certain emissions of highly potent greenhouse gases that in some cases have atmospheric lifetimes of thousands of years and a global warming potential as much as several thousand times greater than carbon dioxide, the most abundant greenhouse gas.

The tax incentives the Administration has proposed cover the four major greenhouse gas-emitting sectors of the economy: buildings, industry, transportation, and electricity.

Buildings

Buildings currently account for about one-third of energy consumption and the related greenhouse gas emissions. The proposed tax incentives for the buildings sector would encourage

investment in a new generation of energy-efficient building equipment, highly energy-efficient new homes, and rooftop solar systems.

Tax credit for highly energy-efficient building equipment

A 20 percent tax credit would be provided for the purchase of certain highly energy-efficient building equipment. This credit encourages the purchase of equipment that will improve the energy efficiency of both residential and commercial buildings. The items covered are certain fuel cells, electric heat pump water heaters, natural gas water heaters, electric heat pumps, natural gas heat pumps, and advanced central air conditioners. Only very energy efficient equipment of each type would be eligible. The credit would be temporary -- for equipment purchased between January 1, 1999 and December 31, 2003 (fuel cells would be delayed one year). The revenue cost of this incentive is estimated to be $1.4 billion for FY 1999 - 2003.

The proposed tax credits reflect the considerations noted above. Eligible items embody new, cutting edge technologies, generally capturing less than 1 percent of market sales. Therefore, few of the credits would go for purchases that would have been made anyway. These top-tier technologies have substantial purchase prices and are not universally cost-effective, but offer superior energy efficiency compared to conventional equipment. For example, compared to typical units on the market, the eligible advanced air conditioning systems and electric heat pumps are 40 percent more efficient, and eligible electric heat pump water heaters and natural gas heat pumps are about twice as efficient. Eligible items are currently available. Energy efficiency standards are available for the eligible equipment so that items could be defined precisely enough for IRS to administer the credit.

Through 2008, we estimate that over 7 million taxpayers will purchase energy efficient equipment eligible for the credit. As noted above, eligible units are substantially more energy efficient than the typical units on the market.

Tax credit for new energy-efficient homes

Residences account for about one-sixth of US greenhouse gases and offer one of the largest sources of energy saving potential. Almost one million new homes and manufactured homes are built and sold each year. Some states and certain Federal programs require new houses to meet Model Energy Code standards for insulation and related construction standards, and for heating, cooling and hot water equipment. But the energy efficiency of new homes could be improved by 50 percent or more through the use of energy efficient building practices and more efficient heating and cooling equipment.

To encourage the purchase of new highly energy-efficient homes, a tax credit would be provided equal to one percent of the purchase price (up to a maximum credit of $2,000) of new homes that use at least 50 percent less energy for heating, cooling and hot water than the Model Energy Code. The full credit would be available for homes purchased between January 1, 1999

and December 31, 2003, and would phase out in 2006. The revenue cost of this incentive is estimated to be $0.2 billion for FY 1999 - 2003.

Again, we have set a high threshold for eligibility for the credit. Eligible houses would be very energy efficient compared to present standards. Energy used in housing eligible for the credit would be reduced by 75 percent to 85 percent compared to existing housing and by over 50 percent compared to new housing.

Tax credit for rooftop solar systems

Solar energy systems, which accounted for .02 percent of electricity generation in 1996, have the potential to reduce greenhouse gas emissions and energy costs for businesses and individuals. The tax credit for the purchase of rooftop photovoltaic (PV) systems and solar water heating systems solar systems would make these systems more affordable and encourage their purchase. The credit would be 15 percent of qualified investment up to a maximum credit of $2,000 for PV systems and $1,000 for solar water heating systems. The credit would be available from January 1, 1999 to December 31, 2003 for solar water heating systems, and to December 31, 2005 for rooftop PV systems. The revenue cost of this incentive is estimated to be $0.1 billion for FY 1999 - 2003.

This tax initiative will help to achieve the President's goal of one million solar roofs by 2010. Heat and electricity produced from solar energy systems produce no greenhouse gases.

Industry

The proposed tax incentives for industry would promote energy efficiency by encouraging investments in combined heat and power systems that make effective use of energy that is otherwise wasted in producing electricity by more conventional methods. Tax credits are also provided to encourage the replacement of certain electricity circuit breakers that are prone to leak a potent greenhouse gas and the purchase of equipment that recycles certain greenhouse gases used in the semiconductor industry.

Tax credit for combined heat and power (CHP) systems

CHP systems use thermal energy that is otherwise wasted in producing electricity by more conventional methods. These systems increase energy efficiency, lower the consumption of primary fossil fuels and reduce carbon emissions as compared with conventional methods.

To encourage and accelerate investment in CHP equipment, a 10 percent tax credit would be provided for investments in CHP systems that meet certain energy efficiency requirements. A qualified system would be required to produce at least 20 percent of its total useful energy in the form of both thermal energy and electric or mechanical power, and would have to meet certain efficiency standards. The credit would apply to property placed in service between January 1,

1999 and December 31, 2003. The revenue cost of this incentive is estimated to be $0.9 billion for FY 1999 - 2003.

Current cogeneration capacity is nearly 45 gigawatts. The credit should increase that capacity by about ten percent. Eligible CHP systems should reduce input energy requirements by about one-third compared to conventional systems. This saving is achieved by capturing the current waste heat that is created during the generation of electrical energy and using that waste heat in a thermal application. This saves fuel costs and generates fewer greenhouse gas emissions.

Tax credit for replacement of certain circuit breaker equipment

Certain older, large power circuit breakers used in the transmission and distribution of electric power are particularly prone to leak sulfur hexafloride (SF6). This equipment, using a dual pressure technology that was no longer produced after 1985, is particularly prone to leak as the seals corrode over time. The purpose of the tax incentive is to encourage utilities to replace the old equipment with new equipment. To prevent the old equipment from being sold to another utility in the US or abroad, the old equipment must be certified by an appropriate third party to have been destroyed.

To encourage the replacement of leaky circuit breakers, a 10 percent credit would be provided for the cost of new equipment. The credit would apply to new equipment placed in service between January 1, 1999 and December 31, 2003. The revenue cost of this incentive is estimated to be less than $50 million for FY 1999 - 2003.

Tax credit for perfluorocompound (PFC) and hydrofluorocarbon (HFC) recycling equipment

PFCs and HFCs are among the most potent greenhouse gases because of their extreme stability in the atmosphere and strong absorption of radiation. Because of the rapid anticipated growth of the semiconductor industry, the use of these gases is expected to grow at rates of 20 to 30 percent per year for the next ten years. A 10 percent tax credit would be provided for the purchase of equipment to recycle and recover PFCs and HFCs used in the production of semiconductors. The credit would apply to equipment placed in service between January 1, 1999 and December 31, 2003. The revenue cost of this incentive is estimated to be less than $50 million for FY 1999 - 2003.

These two tax credits are targeted toward emissions of very potent greenhouse gases that in some cases have atmospheric lifetimes of thousands of years and a global warming potential as much as several thousand times greater than carbon dioxide.

Transportation

The proposed tax initiatives in the transportation sector include tax credits for the purchase of highly fuel-efficient cars and light trucks, and an incentive to encourage public transportation and vanpools.

Tax credits for highly fuel efficient vehicles

Cars and light trucks (including minivans, sport utilities, and pickups) currently account for 20 percent of greenhouse gas emissions. Tax credits for highly fuel efficient vehicles will help to move vehicles that are ultra efficient from the laboratory to the highway. Thus this credit complements the research Partnership for a New Generation of Vehicles (PNGV program) that will develop a production prototype of a family car with three times the fuel economy of today's comparable car (about 80 miles per gallon) by 2003-2004.

Two tax credits would be provided:

-- A $4,000 credit for a vehicle with triple the base fuel economy for its class. This credit would be available for purchases of qualifying vehicles beginning January 1, 2003. The credit amount would be phased down to $3,000 in 2007, $2,000 in 2008, and $1,000 in 2009, and would be phased out in 2010.

-- A $3,000 credit for a vehicle with twice the base fuel economy for its class. The $3,000 credit would be available for purchases of qualifying vehicles beginning January 1, 2000. The credit amount would be phased down to $2,000 in 2004, $1,000 in 2005, and would be phased out in 2006.

These credits would be available for all qualifying vehicles, including cars, minivans, sport utility vehicles, pickup trucks, and electric vehicles. The revenue cost of this incentive is estimated to be $0.7 billion for FY 1999 - 2003.

Again, we have set a very high threshold for obtaining these credits. Eligible vehicles must be two or three times as efficient as today's comparable vehicles. Tripling a car's fuel economy reduces its emissions of carbon dioxide by 67 percent; doubling a car's fuel economy reduces its emissions of carbon dioxide by 50 percent.

Equalize the tax treatment of parking and transit benefits

Under present law, qualified transportation fringe benefits provided by an employer are excluded from income. Qualified transportation fringe benefits include parking, transit passes, and vanpool benefits. Beginning in 1998, parking is excludable from gross income even when provided in lieu of other compensation payable to an employee. Transit passes and vanpool benefits, however, are only excludable if provided in addition to, and not in lieu of, any compensation otherwise payable to an employee. In 1998, the amount of employer-provided benefit that is excludable from income per month is $175 for parking and $65 for vanpool and transit benefits.

This initiative would equalize the tax treatment of parking benefits and transit and vanpool benefits. To encourage public transportation and vanpools, employers would be allowed to

provide tax free transit and vanpool benefits in lieu of compensation, up to the same amount that they can provide for parking beginning January 1, 1999. The revenue cost of this incentive is estimated to be $0.1 billion for FY 1999 - 2003. A similar provision is contained in the Surface Transportation Revenue Act of 1998.

Electricity

Extension of tax credit for electricity produced from wind and biomass

Wind energy systems accounted for about .09 percent of electricity generation in 1996. What is deployable today is the result of successful R&D in the past. To encourage the production of electricity from wind and certain biomass, a 5-year extension is proposed for the present 1.5 cent per kilowatt hour tax credit (adjusted for inflation after 1992). The present credit, which applies to facilities placed in service before July 1, 1999, would be extended for five years. The revenue cost of this incentive is estimated to be $0.2 billion for FY 1999 - 2003.

This tax credit helps to make electricity from these systems competitive with other forms of electricity generation. Electricity produced from wind energy systems produces no greenhouse gases.

CONCLUSION

Our goal has been to design a package of tax incentives to achieve reductions in greenhouse gases and to increase energy efficiency. The tax incentives have well-defined goals. Eligible items offer superior energy efficiency, use renewable energy sources, or reduce emissions of some of the most potent greenhouse gases. If taxpayers claim a credit, it is for items that produce energy savings and reductions in greenhouse gas emissions. If taxpayers do not take advantage of the credits, there is no revenue loss.

The impact of the incentives in this package on greenhouse gases will likely increase significantly in the years beyond the ten-year budget window, and those distant effects, by their very nature, are the most difficult to predict. That is why the Administration has chosen not to make speculative estimates about the potential benefits. I would like to illustrate this point with one example. I stated earlier, with respect to the tax credit for highly energy-efficient building equipment, that the affected equipment presently captures less than one percent of market sales. With the credit in place, we expect this fraction to increase significantly in the short-run. We also expect that after the credit has expired the share of the market for highly efficient building equipment will be much larger as a result of the credit. But whether it will double, or triple, or increase by a factor of 10 is unclear. The estimated impact on emissions reductions will hinge on assumptions about the long-term increase in market share which is very difficult to predict.

In conclusion, Mr. Chairman, we believe that the Administration's proposed tax incentives represent sound policy that will have long-term benefits. We look forward to working with the Congress on this matter.

HIGHLY INDEBTED POOR COUNTRIES INITIATIVE

1998-SE-003628

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

March 20, 1998

MEMORANDUM FOR PRESIDENT CLINTON

FROM: Robert E. Rubin R.E.R.

SUBJECT: The HIPC Debt Initiative

Why the HIPC Debt Initiative was Created

The United States advocated the Heavily Indebted Poor Countries (HIPC) initiative because we recognized that existing debt relief mechanisms were not sufficient for the most heavily indebted poorest countries. For a limited number of countries, even up to 67% debt reduction to be provided under Naples terms in the Paris Club would not be sufficient. HIPC will provide a final exit from repeated debt rescheduling. Creditor governments will provide up to 80% debt reduction and, for the first time, international financial institutions are providing relief, as well.

Progress to Date

We expect 15-20 countries worldwide will need very deep relief under HIPC, 11-16 in Africa. Since last spring the process has accelerated; by this April we expect eight countries to be declared eligible, six of these are African: Uganda, Burkina Faso, Côte d'Ivoire, Mali, Guinea-Bissau and Mozambique. We expect more countries to qualify this year. In recognition of its strong economic reform record, Uganda was the first country to become eligible and is expected to receive final HIPC debt relief in April totaling $700 million in nominal debt service.

Conditionality

The objective of HIPC is to achieve sustainable development and growth and manageable debt burdens. Some argue that debt relief should be provided unconditionally, but debt relief alone, without necessary and sustained reforms, would not provide the foundation for sustained economic growth. Debt relief and conditionality must go together.

Why an Expanded Debt Relief Program Is Not Needed

There has been pressure to provide deeper debt relief, to provide relief sooner and to offer benefits for more countries. While some argue that African countries should have even deeper debt reduction or have their debts forgiven entirely, we think that would actually be contrary to the countries' interests. First, this could create a serious moral hazard problem if countries borrow with the expectation that their debts will be forgiven. Second, if we create a presumption that Africa cannot sustain any debt, we might discourage lenders from providing much needed

finance. Nevertheless, some creditors are doing even more to help release further resources for health, education and development. The United States, for example, is also planning to provide full debt forgiveness of outstanding concessional debt for strong performers in Africa under your Partnership for Growth and Opportunity.

While some argue that countries should receive debt relief more quickly, countries with a strong record of reform will receive final HIPC debt relief in less than the six years that would normally be needed to assure that sufficient reforms are in place. Moreover, we have encouraged all creditors to provide interim relief during the initial stages of reform so that debtor countries begin to enjoy the benefits of debt relief while they are establishing a record of reform.

In sum, you may be pressed to advocate at the Birmingham Summit steps to accelerate HIPC relief, provide deeper relief, extend HIPC relief to more countries or lessen conditionality. This could be counterproductive for the reasons discussed above.

Additionally, you should be careful not to raise expectations that the fragile G-7 coalition for HIPC relief cannot deliver. On February 21, the G-7 Finance Ministers said that they looked forward to determined and speedy extension of debt relief to more countries and called on all eligible countries to embark on the process as soon as possible, and to take steps to ensure that all can be in process by the year 2000.

We have a positive story to tell and believe that our approach best serves the interests of the African countries for the reasons discussed above. They key now is for these countries to reform their economies.

TREASURY CLEARANCE SHEET

NO._____
Date_____

MEMORANDUM FOR: ☒ SECRETARY ☐ DEPUTY SECRETARY ☐ EXECUTIVE SECRETARY
☒ ACTION ☐ BRIEFING ☐ INFORMATION ☐ LEGISLATION
☐ PRESS RELEASE ☐ PUBLICATION ☐ REGULATION ☐ SPEECH
☐ TESTIMONY ☐ OTHER

FROM: Assistant Secretary (International Affairs)

SUBJECT: Memorandum to the President on the HIPC Debt Initiative

REVIEW OFFICES (Check when office clears)

☐ Under Secretary for Finance
☐ Domestic Finance
☐ Economic Policy
☐ Fiscal
☐ FMS
☐ Public Debt

☐ Under Secretary (International)
International Affairs

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☐ Policy Management
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☐ Tax Policy
☐ Treasurer
☐ E & P
☐ Mint
☐ Savings Bonds
lative Affairs
☐ Other

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INITIATOR(S)				
B.Holloway	BH	3/20/98	OASIA/IDD	622-0098
REVIEWERS				
M. Chaves	MOC	3/20	OASIA/IDD	622-0237
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W.Schuerch	WS	3/20	OASIA/ID	622-0154
D.Zelikow	DMZ	3/20	OASIA/IN	622-7222

SPECIAL INSTRUCTIONS

☐ Review Officer Date ☐ Executive Secretary Date

DO F 80-02.1 (04/89)

- Prepared by Dan Zelikow

- NCC to NER (signature)
- NER revised
- NER signed
- AK original to WH

  3/20/98

- NCC/DI to LS (reading)
- NCC cc to NF
  SS
  3/23/98 NB
  PA/DI/AK
- Please Log In

1999-SE-001441

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

February 12, 1999

MEMORANDUM FOR THE VICE PRESIDENT

FROM: Robert E. Rubin RER.

SUBJECT: Poor Country Debt Initiatives

Attached is a memo that I sent to the President today explaining our current policy on highly indebted poor country (HIPC) debt and initiatives on debt in the FY 2000 budget proposal. You alluded to some of these initiatives in your Davos speech. This is an issue that is receiving increasing public and policy attention and one which Pope John Paul II may have raised with you and the President in St. Louis.

HIPC debt also will receive considerable attention at the Cologne Summit and I expect to discuss it with my counterparts in Bonn next week. We also are talking to your staff about the possibility of an "event" for the White House to highlight these efforts.

Elements of our increasingly activist policy toward HIPC debt reduction include a request to Congress to make a contribution to the HIPC Trust Fund, authority to allow income on profits from IMF gold sales to pay for debt reduction and new concessional lending -- as you announced in Davos, continued participation in multilateral Paris Club debt reduction, forgiveness of concessional debt under the President's Africa Initiative, and initial funding for using debt to fund tropical forest conservation programs under the Portman Act.

Attachment

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

February 12, 1999

MEMORANDUM FOR THE PRESIDENT

FROM: Robert E. Rubin

SUBJECT: Poor Country Debt Initiatives

I want to outline for you a series of initiatives that we are taking to strengthen the international effort to reduce the debt of the poorest, most heavily indebted countries. In this regard, we want to take a new, somewhat more activist approach as part of the agenda for the Cologne Summit. President Chirac, Chancellor Schroeder and Prime Minister Blair are likely to be supportive.

Your FY 2000 budget request includes a number of initiatives that underline our commitment to addressing the problems of the world's poorest countries in dealing with their debt overhangs and demonstrate our continued leadership in this regard. We also are exploring alternative ways to make a public statement to highlight these initiatives.

In G-7 meetings leading up to the Summit and at Cologne we will propose an intensification and expansion of existing international efforts and urge others to take actions similar to what we are proposing as part of a concerted, joint endeavor to deal with the debt problems of the poorest countries. Since current international debt reduction programs remain under-funded, however, it will be necessary to insure that new actions can be financed, especially for the multilateral institutions.

Present Situation

The $200 billion external debt burden of HIPCs remains a formidable challenge to development. Of 40 HIPCs, 5 that are presently enduring long-standing domestic conflicts (Angola, DROC, Liberia, Somalia, Sudan) owe nearly $45 billion, while 3 others (Ghana, Kenya, Laos) that owe $15 billion do not need international debt forgiveness. The remaining 32 (see attached list) owe their international creditors about $140 billion. For that group as a whole, quantitative indicators of debt burdens remain well above those for other developing countries -- the real value of debt to exports was more than 450% in 1996, compared with 200% on average for the other developing countries, and the real value of debt to national income was 130%, compared to about 50% for others.

Our overall policy on debt reduction for HIPCs has been to forgive debts in support of sustained economic reforms by the recipient country. Such conditional relief increases the chances that the debt forgiveness will, in fact, free up resources that would otherwise be required for burdensome debt payments so those funds can be used for fighting poverty, child survival programs, and

environmental protection activities. Debt reduction together with sound policies contributes to achieving sustainable development, economic growth, and meeting basic human needs.

In the last 10 years, the U.S. has forgiven more than $4 billion in debt. Nonetheless, the 40 HIPCs still owe more than $6.5 billion to the United States Government. On the other hand, the 32 receiving or expected soon to receive debt relief from the international community now owe us less than $2 billion and we expect to forgive more than $400 million of that amount during FY 1999 and FY 2000 through both the Paris Club and your Africa Initiative.

New Initiatives

Three points should be kept in mind:

1) Debt reduction is not free. It must be paid for with budget resources to compensate for value foregone and budgetary appropriations are necessary for this purpose. Since FY 1994 the Administration has received $106 million in budget authority, which by the end of this fiscal year will result in forgiving nearly $840 million in debt to the United States.

2) The current HIPC initiative is not fully funded. The financial set-asides by the multilateral institutions fall short by almost $2 billion, or nearly half of their estimated total costs of debt forgiveness, and represent a dollar-for-dollar claim against member governments.

3) We need to find the right balance between debt reduction to levels consistent with a country's capacity to pay, which is our approach, and total debt forgiveness, which we believe should be reserved for concessional debt only and only in exceptional cases, so as not to encourage the notion that countries can walk away from their obligations.

To strengthen and deepen the HIPC initiative we are proposing:

1. More extensive efforts to fund the HIPC Trust Fund, which finances the costs of debt reduction by the IFIs other than the World Bank and IMF (e.g., the African and Inter-American Development Banks). There is presently $302 million in the Fund or pledged.

    - As part of the FY2000 budget, we seeking a $50 million contribution, which would be the largest to date by any G-7 country and one of the largest overall. We are hopeful our proposed contribution will stimulate others.

2. Mobilization by the IMF of $3.5 billion, both to support reduction of HIPC debt owed to the IMF and to provide low cost loans to other poor countries.

    - Resources would be generated in the form of income by investing the profits from sales of at least 5 million ounces of gold, as announced by the Vice President in

Davos, as well as use of a $1.4 billion IMF reserve account, seeking bilateral contributions, and possibly use of some IMF income.

- U.S. support would include agreement to allow the IMF to use some or all of our share (about $300 million) of the reserve account as grants to reduce HIPC debt, rather than being refunded to the United States. We also could support larger sales of gold -- up to 10 million ounces which could generate a total of as much of $3 billion over the 15 years during which new IMF concessional loans would be outstanding.

3. Emergency funding this fiscal year from the Central American supplemental of $41 million to respond to the need to address exceptionally the debts owed by Honduras and Nicaragua, the two countries most seriously affected by recent hurricanes in Central America.

   - The money being requested is in addition to $54 million in debt relief via deferral of all principal and interest that was announced by the First Lady during her recent visit to the region.

   - These funds would permit deeper debt reduction for Honduras and Nicaragua than had been anticipated prior to Hurricane Mitch, as well make as a $25 million contribution to the Central American Emergency Trust Fund that is managed by the World Bank for helping countries to meet their immediate obligations to multilateral financial institutions.

   - Under this program, the United States will write-off nearly $140 million in debt owed it by Honduras and Nicaragua, which is in addition to the more than $700 million owed by those two countries that had been forgiven previously.

4. $20 million to pay for continued participation in debt reduction through the multilateral Paris Club of creditor nations and for additional reduction of concessional debts owed by countries eligible to participate in the President's Africa Initiative.

   - These funds, combined with money that has been set aside this fiscal year will fund at least another $400 million in debt reduction for HIPCs in FY 1999-2000.

5. Initiation of a new program to use debt to achieve funding of tropical forest conservation.

   - $50 million has been requested for the first year of this program to reduce debt and to fund local civil, social, and environmental programs.

Through these proposals, we are demonstrating that your Administration remains committed to programs of sustainable development for the HIPCs, based on sustained programs of economic

reform and debt reduction. Nevertheless, a number of proposals have been advanced, including by the Pope, for more generous and earlier debt forgiveness. We fully support complete write-offs of concessional debt in specific cases, since much of that lending should have been in grant form initially, and substantial reduction of non-concessional debt. The more far-reaching proposals, however, are counterproductive and could not be achieved without creating problems.

We believe that conditioned, phased, and substantial, but not complete write-offs are preferable. Our proposals are not nearly as dramatic as those for full, immediate, and unconditional write-offs, but they will result in manageable debt stocks, promise more sustainable development over the medium-term, and preserve the financial integrity of the multilateral institutions.

Moreover, complete debt reduction, while possibly morally satisfying, has significant drawbacks for both debtors and creditors. Countries that took credits in good faith have an ethical duty to attempt to make good on their obligations. That is the basis of a system of voluntary lending and borrowing and blanket write-offs could have a chilling effect on new credit, even when loans are concessional or made for developmental purposes.

There also is a moral hazard problem of countries undertaking obligations and being relieved of those without significant efforts on their part to correct the controllable economic policy conditions that have contributed to debt difficulties. We cannot expect to relieve poverty only with debt reduction, but we can expect that countries whose debt is being reduced will pursue non-inflationary, growth-oriented policies that are self-sustaining and do not waste the resources freed-up by our actions. The immediate debt service burden of countries can still be addressed by rescheduling in the short-term, with obligations actually forgiven as conditions are met. In other words, significant debt reduction can be achieved over time, but this conditional, phased approach seeks to balance benevolence with pragmatism and is, on balance, a more appropriate response.

Each of the programs being pursued -- which together will commit $470 million in U.S. FY 2000 funds -- will further relieve stress on the budgets of heavily indebted poor countries and allow them to spend more of their own resources on meeting basic human needs, programs for enhancing child development, and environmental protection activities. These programs are flexible, eligibility by HIPCs for participation in them and their progress toward debt reduction is limited only by the rate of their own performance.

Debt of HIPC Countries ($ Millions)

Country	External Debt/1	USG Debt/2			Debt Forgiveness			
		Total	Non-Conc.	Conc.	US		Other Paris Club	Cumulative/3 (1985-96)
					Debt Forgiven	Budget Cost/4		
Angola	10,612.0	31.9	23.0	8.9	29.8	0.0	0.0	3,763.0
Benin	1,594.0	0.0	0.0	0.0	0.0	0.0	11.7	535.0
Bolivia	5,174.0	17.5	11.4	6.1	440.7	13.4	316.4	2,788.0
Burkina Faso	1,294.0	0.0	0.0	0.0	2.4	0.0	28.6	377.0
Burundi	1,127.0	0.0	0.0	0.0	0.0	0.0	0.0	143.0
Cameroon	9,515.0	68.5	68.5	0.0	81.7	0.6	105.3	732.0
Central Africa Republic	928.0	10.9	10.9	0.0	7.0	0.2	16.6	249.0
Chad	997.0	0.0	0.0	0.0	0.0	0.0	40.7	174.0
Congo	12,826.0	46.0	14.9	31.1	10.7	0.5	747.6	564.0
Cote d'Ivoire	5,240.0	374.6	286.4	88.2	329.4	31.8	1,708.2	297.0
Dem. Rep. of the Congo	19,713.0	2,382.7	1,946.5	436.2	1,217.9	0.0	973.9	2,024.0
Equatorial Guinea	282.0	0.0	0.0	0.0	0.0	0.0	23.5	20.0
Ethiopia	10,077.0	88.1	2.6	85.5	87.4	10.5	157.7	383.0
Ghana	6,202.0	439.3	439.3	0.0	83.7	0.0	0.0	583.0
Guinea	3,240.0	125.0	11.1	113.9	117.8	0.0	61.1	451.0
Guinea-Bissau	937.0	0.0	0.0	0.0	0.0	0.6	76.5	53.0
Guyana	1,631.0	21.4	10.3	11.0	126.5	0.1	124.7	728.0
Honduras	4,453.0	147.7	147.7	0.0	524.8	26.2	175.0	693.0
Kenya	6,893.0	205.1	165.9	39.1	85.9	0.0	0.0	716.0
Laos P.D.R.	2,263.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0
Liberia	2,107.0	263.4	63.2	200.2	8.1	0.0	29.4	3.0
Madagascar	4,175.0	41.4	41.4	0.0	219.7	0.0	6.3	831.0
Mali	3,020.0	4.1	0.0	4.1	5.1	0.9	0.0	514.0
Mauritania	2,363.0	6.6	6.6	0.0	5.3	1.9	661.7	229.0
Mozambique	5,842.0	65.6	65.6	0.0	100.3	0.2	1,873.1	1,016.0
Myanmar	5,184.0	7.5	0.0	7.5	0.0	0.0	0.0	83.0
Nicaragua	5,929.0	107.0	84.6	22.4	355.8	5.5	2,145.6	7,119.0
Niger	1,557.0	16.2	16.2	0.0	15.4	0.0	151.1	620.0
Rwanda	1,034.0	2.3	2.3	0.0	0.9	0.0	2.4	66.0
Sao Tome and Principe	261.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Senegal	3,663.0	25.9	20.5	5.4	49.4	1.9	182.5	1,389.0
Sierra Leone	1,167.0	82.5	16.4	66.1	0.0	0.0	64.7	449.0
Somalia	2,643.0	369.3	190.4	178.8	0.0	0.0	0.0	130.0

Debt of HIPC Countries ($ Millions)

Country	External Debt/1	USG Debt/2			Debt Forgiveness			
		Total	Non-Conc.	Conc.	US		Other Paris Club	Cumulative/3 (1985-96)
					Debt Forgiven	Budget Cost/4		
Sudan	16,972.0	1,013.7	566.5	447.3	0.0	0.0	0.0	81.0
Tanzania	7,412.0	37.0	37.0	0.0	157.7	0.0	507.8	1,029.0
Togo	1,463.0	0.0	0.0	0.0	7.4	0.0	0.0	335.0
Uganda	3,674.0	5.2	5.2	0.0	25.7	0.4	66.2	359.0
Vietnam	26,764.0	265.5	0.0	265.5	0.0	0.0	0.0	82.0
Yemen	6,356.0	116.8	10.2	106.6	2.2	0.0	106.9	18.0
Zambia	7,113.0	363.5	197.2	166.3	460.1	0.0	543.0	1,737.0
Total	**213,697.0**	**6,752.3**	**4,461.9**	**2,290.4**	**4,558.8**	**94.7**	**10,908.2**	**31,403.0**

Notes:

1. Source: World Bank; end-1996 (latest available data)
2. Source: USG; 1998 estimate.
3. Source: World Bank; includes all creditors.
4. Through FY 1999. Includes $16 million in Central America supplemental not yet appropriated. Excludes $11 million that has not been obligated and $21 million appropriated for prior debt reduction for Jordan.

TREASURY CLEARANCE SHEET

NO._____

Date 2/10/99

MEMORANDUM FOR: X SECRETARY X DEPUTY SECRETARY☐EXECUTIVE SECRETARY
☐ ACTION ☐ BRIEFING X INFORMATION ☐ LEGISLATION
☐ PRESS RELEASE ☐ PUBLICATION ☐ REGULATION ☐ SPEECH
TESTIMONY ☐ OTHER

THROUGH:
FROM: Under Secretary Geithner
SUBJECT: Poor Country Debt Memo for the President

REVIEW OFFICES (Check when office clears)

☐ Under Secretary for Finance
☐ Domestic Finance
☐ Economic Policy
☐ Fiscal
☐ FMS
☐ Public Debt

☐ Under Secretary (International)
☐ International Affairs

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☐ ATF
☐ Customs
☐ FLETC
☐ Secret Service
☐ General Counsel
☐ Inspector General
☐ IRS
☐ Legislative Affairs
☐ Management
☐ OCC

☐ Policy Management
☐ Scheduling
☐ Public Affairs/Liaison
☐ Tax Policy
☐ Treasurer
☐ E & P
☐ Mint
☐ Savings Bonds

☐ Other_____

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REVIEWERS				
J. Lister	JL	2/10/99	IMF	622-0112
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A/S Truman	GMT	2/10/99	I	622-1270
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DAS Atkinson DAS Zelikow Mrs. Lissakers				

SPECIAL INSTRUCTIONS

☐ Review Officer _____ Date _____ ☐ Executive Secretary _____ Date _____

DO F 80-02.1 (04/89)

EXECUTIVE SECRETARIAT CORRESPONDENCE MEMO COVER SHEET

Wednesday, February 10, 1999

PROFILE #: 1999-SE-001441

DATE CREATED: 02/10/1999

ADDRESSEE: Robert E. Rubin
Secretary

AUTHOR: Geithner, Timothy F.
US, International Affairs

SUBJECT: Poor Country Debt Memo for the President

ABSTRACT: Poor Country Debt Memo for the President.

RM 3419 | TO REVIEWERS IN: | TO EXECUTIVE SECRETARY IN:

TO THE SECRETARY

To PA 2/10/99

DATE SIGNED:

PA to NCC 2/10/99

DISTRIBUTION: AS, INTERNATIONAL AFFAIRS

NCC revised then ready
for RER signature
NCC cc to NF
2/11/99

Osie Jackson original to WH

NCC/DI cc to LS (reading)

2/16/99

Mike Mondero
99-1441

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.
February 10, 1999

UNDER SECRETARY

MEMORANDUM FOR THE SECRETARY
DEPUTY SECRETARY SUMMERS

FROM: UNDER SECRETARY GEITHNER

SUBJECT: Poor Country Debt Memo for the President

Recommendation:

That you sign the attached memo to the President outlining our policy on debt reduction for HIPCs and initiatives we are undertaking to strengthen the current international strategy, as well as a forwarding memo to the Vice President.

___✓___ Agree _____ Disagree _____ Let's discuss.

Background

The President's FY 2000 budget request contains several elements of a more activist USG policy toward debt reduction for HIPCs, including a contribution to the HIPC Trust Fund, authority to allow income on profits from IMF gold sales to pay for IMF debt reduction and new ESAF lending, continued participation in Paris Club debt reduction, concessional debt reduction under the Africa Initiative, and initial funding for using debt for tropical forest conservation programs (the Portman Act).

In addition, the Germans have announced a Cologne "initiative" that in many respects mirrors positions we and others in the G-7 have taken for some time. These would broaden debt reduction under the HIPC initiative by writing-off concessional debts and provide flexibility with regard to the timing and depth of reduction.

Nevertheless, there is a considerable amount of misinformation and misdirected criticism of debt reduction programs and policies, including by the Pope and Jubilee 2000 proponents. Given the increasing prominence of these issues and their relevance for the Cologne Summit, the attached memo is an effort to begin educating the President and the rest of the Administration as to the extent of our actions and why faster and more complete debt write-offs are not advisable even for the poorest countries.

1999-SE-002649

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

UNDER SECRETARY

MEMORANDUM FOR THE SECRETARY
DEPUTY SECRETARY SUMMERS

FROM: Timothy Geithner

SUBJECT: Memo to the President and Vice President on New Debt Initiative

ACTION FORCING EVENT:

Here's the note to the President and Vice President on our proposed debt initiative.

When we went over this with the NEC Deputies yesterday, we found general support and enthusiasm for the substance, but some reluctance to outline the full details in public next week. Steinberg, in particular, argued for a more general statement by the President on Tuesday, mostly on the grounds that he thought it would be better to have more time for consultations with the Congress and the NGO community, and even the G-7, before we went public.

Lael Brainard called today, however, and said that the President would want to outline the full plan.

We are drafting with the NSC two options for the President's Africa speech, one general and one with the full substance of the plan.

RECOMMENDATION:

That you sign the attached memo.

_____ Agree _____ Disagree _____ Let's discuss.

Attachment

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

March 15, 1999

MEMORANDUM FOR THE PRESIDENT
THE VICE PRESIDENT

FROM: Robert E. Rubin R.E.R.
Lawrence Summers LHS

SUBJECT: New Debt Initiative

We have put together a proposal for a new international initiative to reduce the debt burden of the poorest developing countries that will put you in a leadership position among the G-7, but at the same time is responsible.

This approach substantially advances the proposals put forth by the Vice President at Davos and outlined in the FY2000 budget. The new initiative would provide more relief, more quickly to a broader range of highly indebted poor countries that have strong reform programs, would expand the amount of debt forgiven by an estimated $70 billion and bring in nine more countries than are eligible under the current program. Adding this to the $32 billion in debt reduction potentially available under the current program, would increase the total total debt to be forgiven for all potentially-eligible countries by all creditors to as much as $102 billion. The details are outlined in the attached note.

The President will be speaking at the US - Africa Ministerial next week, and could unveil this strategy in detail at this gathering or present it in a more general thematic manner only at that time.

Broad Objectives

In outlining this proposal, you would call on the international community to commit to work towards the time when no nation that is committed to economic reform and to building the institutions necessary for effective and accountable government is left with an unsustainable debt burden that unduly constrains it from devoting resources to satisfy the basic needs of its people.

This new initiative would preserve the underlying principle of reciprocal responsibility in the current program, with relief targeted to performance. The program would offer two tiers of treatment -- more generous treatment than is available under the current program for all eligible countries and exceptional treatment for countries that meet strong governance standards and commit to devote the resources saved to meeting basic human needs. And, in contrast to the current HIPC framework, we would seek to put greater emphasis on early and substantial cash flow relief, in addition to deeper debt reduction.

This approach does not embrace proposals for complete debt forgiveness or general moratoria, which we believe would impair the capacity of these countries attract the private capital flow that is critical to long-term development and could encourage countries to engage in imprudent borrowing and maintain poor policies in the hope that their debts would not have to be repaid.

Key Elements

To meet these objectives, the international community would move beyond the current outlines of the HIPC program to adopt the following approach, which combines proposals that provide more generous treatment for all countries that meet the existing HIPC performance criteria, with measures that would provide exceptional treatment for exceptional performance:

- **Front loaded relief**
  - A new focus on early debt service relief by the international financial institutions, which under the current program only provide debt stock reduction at the end of the program.
  - An immediate increase in the debt eligible for cash flow relief from government creditors by shifting the "cutoff" dates that define what debt is included. The Paris Club of creditor countries specifies the debts eligible for reduction or rescheduling at a point in time, which in many cases goes back to the early-to-mid-1980s, and excludes newer debts.
- **Deeper debt reduction**
  - Complete forgiveness of bilateral concessional loans, rather than rescheduling as is done at present.
  - Deeper reductions in bilateral non-concessional debt (from up to 80 percent to 90 percent across the board).
  - Expanding the debt eligible for reduction by shifting "cutoff" dates, as above, which would leave less debt outstanding after forgiveness.
- **Exceptional relief with targeted support for basic human needs**
  - Deeper debt reductions for countries that have strong records on governance and civil society reforms and commit to devote the resources saved to meet basic human needs. *It will be important, but difficult to find a mechanism for making these determinations in a relatively objective manner that is not vulnerable to politicization.*
  - Innovative approaches, such as debt for nature swaps, that channel resources from debt service into local currency investments to support environmental protection, education, or other needs.

- **Avoiding future debt problems**
  - A commitment to provide at least 90 percent of new official development assistance to HIPC countries on a grant basis.
- **Post conflict**
  - New approaches to help countries emerging from protracted domestic conflict that facilitate early engagement by the IFIs with resources to support reconstruction and also to ensure that new aid flows are not diverted to paying-off old debt owed to the same donors that are supplying assistance.
- **New Financing**
  - Support for IMF gold sales, the World Bank's HIPC Trust Fund and other approaches to meet the financial costs of this initiatives.

Financial Costs

The financial costs of these proposals are sensitive to assumptions about which countries would actually meet the performance criteria under the program.

The direct budget costs to the United States of reducing the estimated $3.3 billion in bilateral debt outstanding to all countries that meet the economic and financial criteria for HIPC eligibility would be about $190 million spread over several fiscal years. Realistically, however, many of the countries that meet the economic and financial criteria for HIPC eligibility would not meet the performance criteria. Liberia, Somalia, and Sudan, for example, account for almost half the budgetary costs, but have reform records that would disqualify them from HIPC treatment. Other countries, such as Democratic Republic of the Congo (ex-Zaire) are included in base costs, but are not likely to come forward for debt relief anytime soon.

The other G-7 and Paris Club creditors would face substantially higher costs, because they have generally forgiven less bilateral debt than we have, and have providing a substantially higher proportion of development assistance flows in recent years in the form of loans rather than grants.

The costs of meeting the IFI share of this initiative would be substantial, about $6 billion more than under the current program. Our IMF financing proposals, including the use of interest earnings on the proceeds of up to 10 million ounces of IMF gold and use of a special reserve account, would meet only part of this gap. We are in the process of exploring other proposals, but are unlikely to be able to identify ways to close the full gap up front.

Because countries will become eligible only gradually and because not all countries are likely to qualify, we believe it is reasonable to go ahead without having fully identified how to meet the IFI portion of the program. The first HIPC program was launched in 1996 despite a very large financing gap.

Alternative Approaches

The proposals outlined above would put us out in front of most of the G-7. However, there are several alternative approaches offered by the NGO community and parts of the G-7 that are not part of our proposal and that we do not believe we should support.

- **Acceleration**. The UK and others have proposed accelerating from six to three years the point at which eligible countries get debt reduction. We believe it makes sense to preserve the current framework, which provides for acceleration on a case by case basis, because of the importance of preserving the incentive for a sustained record of performance. By providing more substantial up front or "interim" cash flow relief, we can offer the same financial benefit without undermining the incentive for sustained performance offered by withholding debt reduction until the end of the period.

- **Deeper reduction with less conditionality.** Some have proposed offering deeper reduction to all HIPC countries. Our approach, in contrast, provides a combination of greater relief for all eligible countries with more exceptional treatment for those that have better governance records and commit to devote the resources saved from debt service to meeting basic human needs. This might be criticized by some of the beneficiary countries and part of the NGO community and members of Congress as less generous and more intrusive, but it is likely to be welcomed by much of the NGO community, because of the emphasis on devoting increased resources to basic human needs.

- **Comprehensive forgiveness or general moratoria.** Our approach offers significantly more generous financial relief than is available under the current program without offering comprehensive forgiveness or general moratoria. As we have discussed before, we believe complete forgiveness, particularly of the non-concessional debt, could be counterproductive by discouraging future private capital flows to the these countries. If we were to signal indiscriminate relief of debt obligations regardless of a country's capacity to pay, we will undermine the incentives any country has to perform and reduce the willingness of private investors to lend to those governments. It is important to maintain the principle that borrowers should honor their obligations or new credit will not flow. Debt forgiveness cannot be viewed as a right or an entitlement.

3/13/99

U.S. Proposals for a New Initiative on the Debt of the Heavily Indebted Poorest Countries (HIPCs)

Proposals and cost estimates:

These proposals are directed primarily at mobilizing more relief, at a more rapid pace, for a broader range of countries that are poor, highly indebted, and committed to reforming their economies. *The more debtor countries take responsibility for sound economic policies that meet basic human needs, the more creditor countries should be willing to respond with greater relief of their debt burden.*

Under the current HIPC program, 41 countries meet the income level threshold, and of these 23 have debt burdens large enough to make them eligible. Within this universe of countries, only those that met the conditions for sustained economic reform, would actually received debt reduction under HIPC.

If our entire proposal was adopted, we estimate that HIPC-eligible universe would be expanded by 9 countries. Eligible countries would have their debt reduced by an additional $70 billion (of which, $3 billion would be USG debt). The additional USG budgetary costs would be about $190 million ($100 million, excluding Liberia, Sudan, and Somalia). There are likely to be indirect budget costs associated with the IFIs, as well, but we believe those should be manageable and spread-out over time.

Our proposal involves the following changes to the current program:

Front Loaded

1. **Debt service relief ("interim relief") by the IFIs .**

- HIPC time-line is 6 years: IFI relief is on the stock of debt at year 6. Bilateral creditors already provide interim relief to HIPC countries throughout the 6 years, and stock relief at year 6. This proposal would provide IFI relief between the decision point (year 3) and the completion point (year 6).
- The UK and Germany proposed reducing the HIPC time-line, our criticisms of their approach are (1) this is already being done for the best reformers, (2) this removes the whole idea of responsibility on the part of the debtor, and (3) "interim relief" by IFIs – as is being done by the bilateral creditors – can have the same effect without excessively undermining conditionality.
- We think that this proposal would have the support of Canada, France, Italy, and Japan.
- Direct cost to the USG = -0-.

2. Provide at least 90% of new aid (ODA) to HIPCs on a grant basis.

- The US, UK, and Canada (plus the Nordics) provide over 90% of their aid to HIPCs on a grant basis. This provides urgently needed money without increasing the size of a country's debt burden.
- New concessional loans, on the other hand, increase a country's debt burden and make it more difficult to reduce debt service burdens because new debt is considered senior.
- We think that Japan, France, and Italy would have the most problems with this proposal, primarily because they provide a significantly smaller share of their bilateral aid on a grant basis.
- Cost to USG = -0-.

<u>Deepen</u>

3. Forgive 100% of bilateral concessional (ODA) debt

- Bilateral ODA loans are not subject to debt reduction under the HIPC initiative, though ODA debt is rescheduled over lengthy periods. The USG already has forgiven concessional debt owed by many of the HIPC countries and has proposed additional forgiveness under the Africa Initiative.
- We have been pressing for inclusion of this debt in Paris Club reduction since 1996, but France, Japan, and Germany (which now has changed its position) have been opposed.
- Leverage: ODA debt forgiveness by the USG on the 23 countries currently expected to receive HIPC treatment would be $1.8 billion, the global amount would be around $31 billion.
- Cost to USG = $95 million in addition to amounts already requested in FY 2000 budget for the Africa Initiative.

4. Forgive 90% of non-concessional debt

- Bilateral creditors already provide more than 80% debt <u>stock</u> reduction and interim relief between the "decision point" and "completion point"on an *ad hoc* basis when necessary to achieve debt sustainability targets. This proposal would increase the level for all HIPC countries to 90%.
- An increase to 100% without regard to a country's capacity to service its obligations would undermine reform incentives, would reduce the amount of resources available for debt reduction to other debt-burdened countries, and could reduce the prospects for future private capital flows to developing countries. Complete forgiveness would encourage countries to borrow imprudently and pursue risky policies in the expectation they would not have to repay their debts.
- Leverage: the US would forgive an extra $300 million by raising debt forgiveness on non-concessional debt to 90% for the 23 countries currently expected to receive HIPC treatment, the global amount would be around $1 billion.

- Cost to USG = $40 million.

5. Consider including "post cutoff-date" debt in the base of non-concessional debt eligible for reduction

- Most HIPC countries have received bilateral debt reschedulings and reductions by bilateral creditors for years. Usually an original "cutoff date" was set so that all debt contracted before that date is considered eligible for debt forgiveness. Some of those "cutoff dates" go back more than 15 years – all debt contracted after the "cutoff date" is considered senior and not eligible for debt forgiveness. *Cut off dates are a mechanism for encouraging new money to flow by providing seniority over other types of debt.*
- Our proposal would consider changing this "cutoff date" on a case-by-case basis, primarily for the better reformers, to provide more extensive debt relief.
- Leverage: a rough estimate of moving the cutoff date would be that an extra $400 million in USG debt forgiveness would increase global debt forgiveness by $4 billion.
- Cost to USG = $25 million.

Quality

Providing exceptional levels of debt reduction to those countries that have strong records on economic and civil society reforms and which commit to specific targets for devoting increased resources to spending on education, health care, and other basic human needs and environmental protection:

6. Reduce debt sustainability targets:

A. Reduce the present value of debt to exports to 150%.

- HIPC debt relief is provided to a country to allow it to meet a debt sustainability target of 200-250% of present value (PV) of debt/exports. The G7 generally support lowering the target to a flat 200% (the UK has proposed 150%). We would propose lowering it to 150% for those countries that are the best economic reformers, are committed to devoting increased resources to basic human needs, and have strong records in terms of governance, anti-corruption, and democratic reforms.
- We estimate that lowering this target would bring in 7 additional countries (Cameroon, CAR, Ghana, Guinea, Laos, Malawi, Sierra Leone) and increase debt relief by $23 billion (of which, $300 million is USG debt), while preserving the principle of debtor responsibility.
- Additional global cost = $8 billion.
- Cost to the USG = $15-20 million; does not include our share of increased IFI costs of $4 billion.

B. Reduce fiscal target measure of debt sustainability to 250%.

- For extremely open economies (40% of government revenues from exports and government revenues equal to at least 20% of GDP) -- HIPC debt relief is provided to a country to allow it to meet a debt sustainability target of 280% of PV of debt/revenues. We would propose lowering the threshold measures to 30% of government revenues from exports and government revenues equal to at least 15% of GDP and the target level of debt to 250% of government revenues, using the same reform conditionality as in the lowering of the debt/exports ratio.
- Brings in 2 additional countries (Republic of the Congo and Honduras) and increases debt relief by $11 billion (of which, $200 million is USG debt), while preserving debtor responsibility and our values.
- Additional global costs = $4 billion.
- Cost to USG =$10 million; does not include our share of increased IFI costs of $2 billion.

7. Support for innovative approaches, such as debt for nature swaps --as embodied in your FY 2000 budget request -- to channel resources from debt service to support for environmental protection, education, and other initiatives.

- One way to insure that resources freed-up by reduced external debt would go to domestic uses, would be to build on the approach pioneered by the USG in the Enterprise for the Americas Initiative and the Tropical Forest Conservation Act to fund debt swaps for environmental and educational initiatives.

8. Commit to find innovative approaches to assist countries emerging from protracted domestic conflicts.

- Included among the HIPCs are countries that have been engaged or are engaged in domestic conflicts (e.g., Liberia, DROC). Once they convincingly emerge from conflicts, those nations need to rebuild their countries, but will not be immediately eligible to receive the type of support envisaged in HIPC because their lack of a track records or reforms will be weak..
- Declare a moratorium on debt service to bilateral creditors so that new aid flows to meet humanitarian needs and finance reconstruction are not diverted to paying donors.
- The IFIs would provide new, highly concessional lending and grants on a timely basis to support both emergency reconstruction and longer-term development.

Financing

9. Financial support from the G-7 and IFIs to help finance the costs of this initiative.

- One of the major flaws in the German and UK initiatives have been the lack of discussion about the costs involved in enhancing the HIPC initiative. We think it is imperative to address these issues and to make concrete proposals.

- To finance the costs to the IMF, we would propose (all proposals require Congressional support):

  - **Gold sales**: invest the profits from sales of up to 10 million ounces of the IMF's gold. We are close to achieving consensus among the G7 for the IMF to sell up to 5 million ounces of gold (Germany has not formally agreed), and we propose to double what is considered the consensus to sell IMF gold. Authority for this is being requested in connection with the FY 2000 budget request.

  - **Special Contingency Account (SCA-2)**: this account is designed to assist in the *de facto* refinancing of arrears of certain IMF members. We propose to contribute our share of the SCA-2, $300 million, to the HIPC trust fund. Authority for this is being requested in connection with the FY 2000 budget request.

  - **IMF premium**: We have led the drive for the IMF to charge higher interest rates on emergency financing (such as Brazil) and now exploring ways to use some part of the funds generated from this interest premium to finance the multilateral costs of the HIPC initiative.

- The World Bank opened a HIPC trust fund to pay for its own costs and those of the regional development banks in forgiving HIPC debt. The Bank expects to fund its costs of the current initiative on a yearly basis out of net income, but the AfDB, in particular remains short of financing. Costs of the World Bank, IDB, and AfDB all would increase under a changed HIPC.

  - In the FY 2000 budget request, we have asked for $50 million to contribute to the Trust Fund and should be prepared to ask for more next fiscal year.

  - Germany has proposed a DM 50 million contribution and it and others should be asked to provide more.

Impact of New HIPC Initiative for All Potentially Eligible Countries

	Debt Forgiven ($ billions)	USG Debt Forgiven ($ billions)	New IFI costs ($ billions)	USG Direct Budget Cost ($ millions) not including FY99 appropriation or FY00 request.	Countries (#) Includes Liberia, Somalia, Sudan
Base Case	32	2.4	8		23
100% ODA reduction	+31	+1.8	0	+$95	0
90% non-ODA reduction	+1	+0.3	0	+$40	0
"Post cutoff date"	+4	+0.4	0	+$25	0
Lower Debt/export ratio	+23	+0.3	4	+$20	+7
Lower fiscal ratio	+11	+0.2	2	+$10	+2
Total Change	+70	+3.0	6	+$190	+9
TOTAL AMOUNT	$102	$5.4	$14	+$190	32

Base Case:

- Bolivia
- Burkina Faso
- Burundi
- DR Congo (ex-Zaire)
- Cote d'Ivoire
- Ethiopia
- Guinea-Bissau
- Guyana
- Madagascar
- Mali
- Mauritania
- Mozambique
- Myanmar
- Nicaragua
- Niger
- Rwanda
- Sao Tome - Principe
- Tanzania
- Uganda
- Zambia

Lower Debt/Exports Ratio

- Cameroon
- CAR
- Ghana
- Guinea
- Laos
- Malawi
- Sierra Leone

Lower Fiscal Ratios

- Congo (Brazzaville)
- Honduras

Impact of New HIPC Initiative
excluding Liberia, Somalia, Sudan

	Debt Forgiven ($ billions)	USG Debt Forgiven ($ billions)	New IFI costs ($ billions)	USG Direct Budget Cost ($ millions) not including FY99 appropriation or FY00 request.	Countries (#)
Base Case	20	1.6	5		20
100% ODA reduction	+27	+0.	0	+$45	0
90% non-ODA reduction	+1	+0.2	0	+$5	0
"Post cutoff date"	+4	+0.3	0	+$20	0
Lower Debt/export ratio	+22	+0.2	4	+$20	+7
Lower fiscal ratio	+11	+0.2	2	+$10	+2
Total Change	+65	+1.7	5	+100	+9
TOTAL	85	3.3	11	+$100	29

Base Case:

Bolivia
Burkina Faso
Burundi
DR Congo (ex-Zaire)
Cote d'Ivoire
Ethiopia
Guinea-Bissau
Guyana
Madagascar
Mali
Mauritania
Mozambique
Myanmar
Nicaragua
Niger
Rwanda
Sao Tome - Principe
Tanzania
Uganda
Zambia

Lower Debt/Exports Ratio

Cameroon
CAR
Ghana
Guinea
Laos
Malawi
Sierra Leone

Lower Fiscal Ratios

Congo (Brazzaville)
Honduras

T. Gribben to RER
3/13/99

RER cleared
Dsg to G. Sperling
RER ok to authorize
3/15/99

PA authorized
PA original to WH
PA cc LS
SS
RF
NCO1/PALAK
3/15/99

Please log in.

1999-SE-005708

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

June 2, 1999

SECRETARY OF THE TREASURY

MEMORANDUM FOR THE PRESIDENT
THE VICE PRESIDENT

FROM: Robert E. Rubin R.E.R.
Lawrence H. Summers LHS

SUBJECT: Update on HIPC Negotiations for the Summit

We are close to an agreement in the G-7 on a debt initiative for the Cologne Summit that closely matches the proposals you outlined for the Heavily Indebted Poorest Countries (HIPCs) earlier this year at the Africa Ministerial. Final agreement may require your personal intervention with the French and Japanese and may also require that you make a commitment at the Summit to seek additional funding from the Congress over the next several years to help meet the costs of an expanded initiative.

This memorandum outlines the key elements of the new initiative and identifies several options for responding to pressure from the other G-7 for a commitment to burden sharing by the United States.

The new initiative would provide deeper debt relief, more quickly, to a broader range of the poorest, highly indebted countries committed to reform. It has three key components:

- *Poverty Reduction:* The new initiative is built around a new framework of policy conditions, anchored in reformed IMF and World Bank programs, that provide for a greater link to poverty reduction, through more investment in health, education and other basic social needs.

- *Deeper Debt Reduction:* The new initiative would provide significantly deeper debt reduction to eligible countries, including through 100 percent cancellation of concessional loans, and deeper reductions in non-concessional loans by governments and loans by the international financial institutions.

  - *We are still negotiating the precise level of relief to be provided, with France and Japan still insisting on very modest reductions, and the UK isolated in favor of a proposal with prohibitive costs.*

- *Faster Relief:* We are close to agreement on a series of proposals that would allow eligible countries to benefit from cash flow relief through earlier reductions in debt service and earlier reductions in the stock of debt outstanding.

A final agreement along the lines we have proposed would more than triple the scale of relief available under the current initiative. Qualifying countries would have their outstanding debt reduced by $40 billion in present value terms (i.e., in terms of 1998 constant dollars), compared with $12.5 billion under the current HIPC initiative. (The comparable nominal amount of debt reduction would be $73 billion, up from $25 billion under the current initiative.) This could result in annual debt service reductions of as much as $3-4 billion from what these countries now owe, freeing substantial additional resources for investments in people.

The costs of this initiative are substantial, particularly to the international financial institutions, but they can be spread over a lengthy period of time.

Our direct bilateral costs are likely to be $250 million total over three to five fiscal years and starting in FY 2001 to reduce $3.5 billion outstanding. Other countries that have not yet forgiven as much concessional and nonconcessional debt, particularly Japan and France, face substantially higher costs.

The costs to the international financial institutions are likely to increase by $7 billion. A large part of that can be financed out of their own resources and also can be spread over a long period of time.

- A Summit agreement on sales of IMF gold, for example, combined with other IMF resources, will take care of a substantial part of the IMF's costs.

- The costs to the World Bank and the regional developments banks cannot be financed entirely out of their own resources, at least not without a substantial, and probably unacceptable reduction in their capacity to provide concessional finance to their poorest members.

We think the best way to help finance these residual costs is through expanding an existing World Bank fund, called the HIPC Trust Fund, that is financed by bilateral contributions that are now devoted to helping to reduce the costs of reducing the debt of the regional development banks. An expanded Trust Fund, with total contributions in the range of $3 billion, would probably be sufficient. The rest of the costs could be met in future replenishments of the concessional lending arms of the multilateral development banks.

We have proposed in your FY2000 budget request an initial contribution of $50 million. We are likely to recommend that we request between $100 million and $200 million per year over the next three to five years.

We have come under some pressure in the Summit process from Japan and France to quantify a specific financial commitment to help meet the increased costs of the initiative as a condition for their agreement to the package. There are several ways we could choose to respond to this pressure.

1. We could refuse to make any commitment until we have greater detail on the likely costs and have maximized available options to finance the initiative with the resources of the international financial institutions. *Since Germany wants a deal at the Summit and is eager to avoid a fight over "burden sharing," it is possible this approach could work, but it is not likely to satisfy the others and could make the discussion in Cologne more contentious.*

2. We could make a general commitment to increase our contributions to an expanded HIPC Trust Fund, but decline to specify the scale of such a commitment until we have greater clarity on the cost front and have satisfied ourselves that we have exhausted the potential to use the resources of the institutions. *This is a reasonable option, and would probably ultimately prove acceptable to the other G-7.*

3. We could call for an expanded HIPC Trust Fund, and rename it the "Millennium Fund," at an initial size of [$2 billion or more], and pledge to pay an appropriate share of the total. *This would put us out in front of the Congress, lead to greater pressure on us to clarify our share, and reduce some of the pressure on the IFIs to explore innovative ways to meet their costs.*

Our inclination is to recommend option two, in which the U.S. would agree to increase our contribution to the HIPC Trust Fund but decline to specify the amount of our support until we have greater clarity on costs and other funding options. We are in the process of preparing a consensus recommendation with your economic and national security teams.

Impact of New HIPC Initiative
(38 countries, excluding Liberia, Somalia, Sudan)

	Current -- 250% PV debt/exports; 280% PV debt/revenue w/ qualifying thresholds = 40% exp/ GDP; 20% revenue/GDP	France, Japan 200 / 250 (w/ thresholds = 30/15) + inclusion of ODA	 170 / 250 (30/15) + ODA	US, Germany, Canada 150 / 250 (30/15) + ODA	UK 150 / 200 (20/10) + ODA
Number of countries	26	29	31	34	34
Amount forgiven:					
Total debt service	$22 billion	$60 billion	$66 billion	$73 billion	$85 billion
Present value	$12 billion	$33 billion	$36 billion	$40 billion	$47 billion
Avg. annual cash flow savings from scheduled debt service	$0.8-1.3 billion	$2.3-3.6 billion	$2.5-4.0 billion	$2.8-4.4 billion	$3.3-5.0 billion
IFI PV costs	$6.2 billion	$9.6 billion	$11.1 billion	$13.3 billion	$16.6 billion
of which: non-IMF	$5.0 billion	$7.9 billion	$9.1 billion	$11.0 billion	$13.7 billion

Countries:

Bolivia	Honduras	CAR	Benin	Benin
Burkina Faso	Senegal	Honduras	CAR	CAR
Burundi	Togo	Laos	Ghana	Ghana
Cameroon		Senegal	Honduras	Honduras
DR Congo (ex-Zaire)		Togo	Laos	Laos
Cote d' Ivoire			Senegal	Senegal
Ethiopia			Togo	Togo
Guinea			Yemen	Yemen
Guinea-Bissau				
Guyana				
Madagascar				
Malawi				
Mali				
Mauritania				
Mozambique				
Myanmar (Burma)				
Nicaragua				
Niger				
Rwanda				
Sao Tome				
Sierra Leone				
Tanzania				
Uganda				
Zambia				

Treasury/IDD
5/25/9

DEPARTMENT OF THE TREASURY
WASHINGTON

UNDER SECRETARY

ACTION

May 26, 1999

MEMORANDUM FOR SECRETARY RUBIN
DEPUTY SECRETARY SUMMERS

FROM: Timothy F. Geithner TFG
Under Secretary for International Affairs

SUBJECT: Memo to the President on HIPC

Attached is an update for the President and Vice President on the HIPC initiative for the Cologne Summit.

The memo notes that the President might need to intervene personally to bring closure to G-7 negotiations. It also provides three options for dealing with international pressure for burdensharing by the U.S. at the Summit. Those are:

1. Make no commitment until there is greater detail on costs and the amount of contributions that are required for IFIs are identified.

2. Make a general commitment to request funding from Congress over several years to cover unfunded IFI costs, but not to quantify that at Cologne.

3. Establish an expanded HIPC Trust Fund (a "Millennium Fund") and pledge to pay a reasonable and appropriate share of the amount required of $3-5 billion.

Our intention is to recommend the second of these options.

Budget costs to reduce debt owed directly to the USG are estimated at $250 million, also beginning in FY 2001, which we would face over 3-5 fiscal years.

NEC, NSC, and State are supportive of this package, and we are working with OMB to seek its support of the increased amounts required to implement the President's initiative.

cc: Ted Truman

EXECUTIVE SECRETARIAT